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The Collapse of Soviet Communism: A Class Dynamics Interpretation*

TOM MAYER, *University of Colorado*

Abstract

Concepts of class struggle and social reproduction are used to explain the sudden collapse of Soviet Communism. I explore these ideas by means of the mathematical theory of dynamical systems. Theoretical focus is upon the power of social classes and how this power changes over time. The Soviet bureaucracy gradually divided into two classes, and the power relations between these ruling classes caused a drastic loss of power by both, which is why the Communist system collapsed. Four classes of Soviet society are considered: political class, administrative class, working class, and capitalist class. I examine the reproduction of class power in two-, three-, and four-class systems. Also analyzed are the effects of random perturbations and the particular impact of the August 1991 coup attempt. Wherever possible, graphs are used instead of equations to explain class dynamics. The results indicate that drastic power loss was not the only possible outcome of Soviet class dynamics, which may be why the collapse was so surprising. The class dynamics approach emphasizes multiple historical possibilities and cuts against any rigid class determinism.

A collapse of the Soviet regime would lead inevitably to the collapse of the planned economy, and thus to the abolition of state property. . . . The fall of the present bureaucratic dictatorship, if it were not replaced by a new socialist power, would thus mean a return to capitalist relations with a catastrophic decline of industry and culture. (Leon Trotsky, 1936)

The Problem of Soviet Collapse

The collapse of Soviet Communism in 1991 was surely the most rapid and unexpected major social transformation of the twentieth century. The collapse was threefold: destruction of the Communist party, elimination of the state socialist

** I would like to thank the anonymous Social Forces reviewers for their helpful comments, which have substantially improved this article. Direct correspondence to Tom Mayer, 918 Juniper, Boulder, CO 80304. E-mail: Thomas.Mayer@colorado.edu.*

economic system, and dissolution of Soviet nation-state. In the words of David Kotz and Fred Weir, authors of an incisive study on the Soviet demise: "An entire socioeconomic system was dismantled and one of the two most powerful nation-states in the world dismembered, in a relatively peaceful manner, while the world gasped in disbelief" (Kotz & Weir 1997:153).

Although few observers predicted the Soviet debacle, there has been no shortage of retrospective explanations (Åslund 1995, Brown 1996, Clarke et al. 1993, Dallin 1992, Daniels 1993, Ellman & Kontorovich 1992, Hough 1997, Kagarlitsky 1992, Lane 1996, Lewin 1995, Malia 1994, Miller 1993, Remnick 1993, Solnick 1998, Suny 1993). Many of these explanations are cogent, some are ingenious, but none is entirely persuasive. For example, Kotz and Weir argue that the Soviet system collapsed mainly because it was deserted by large numbers of the political elite. This desertion did indeed happen, and former members of the Soviet elite attained leadership positions in most post-Soviet republics, but I shall argue that Kotz and Weir have causation reversed. The elite deserted the system chiefly because it was collapsing, not vice versa.

The explanatory works cited above tend to be well informed, broad in scope, packed with fascinating details, but not very theoretically inclined. They mix every vulnerability of Soviet social structure with every mistake of recent Soviet leaders hoping that this stew will somehow explain the astonishing collapse. Considering this barrage of errors and liabilities in one of the most scrutinized societies on earth, one can hardly comprehend how the downfall eluded anticipation. Yet a convincing and theoretically coherent explanation of this world-shaking turnabout seems quite possible, and finding it should constitute a vital challenge to students of macrosocial change. Such an account must rest upon theoretical principles and should explain both the comprehensive and the unexpected character of the collapse.

This article takes a rather novel approach toward explaining the fall of Soviet Communism. It uses Marxist concepts of social reproduction and class struggle and develops them with the mathematical theory of dynamical systems (Hubbard & West 1995; Katok & Hasselblatt 1995; Kuznetsov 1998; Perko 1996). The theoretical focus is upon class power and how it changes over time. I explain the demise of the Soviet system as a consequence of power dynamics between the two classes that ruled Soviet society. These dynamics led to a drastic power loss for both classes without empowering any other social class able to dominate the state socialist system. These same processes did, however, elevate a small capitalist class bent on liquidating any form of socialism. The breakdown was unexpected by both observers and participants because it was not the only possible outcome of the power dynamics. Indeed, I shall argue that, at the outset of the final period in Soviet history, a subtle but near chaotic situation existed regarding power relations between the dominant classes. Even with full knowledge of the model proposed herein, it would have been impossible to predict the Soviet collapse.

A Brief History of Soviet Class Relations

From the time of the Bolshevik Revolution to the onset of collectivization and urbanization in the early thirties, Soviet society contained three major social classes: peasants, workers, and state-party bureaucracy. Peasants were the overwhelming majority, but workers, concentrated in a few urban areas and subject to political organization, had an important part in the Revolution and in the ensuing civil war. These struggles drastically depleted the Soviet working class both in numbers and, more importantly for our purposes, in power. Although the numerical size of the working class greatly increased during the next seven decades, its power remained low, never approaching the levels attained during the Revolution and its immediate aftermath. The decline in working-class power corresponded to a steady growth in bureaucratic power, but the state-party bureaucracy was not yet the undisputed master of Soviet society. The barrier to such hegemony lay in the huge peasant class which, due its control of land and agricultural production, retained very substantial class power.

From the perspective of class analysis, collectivization, industrialization, and centralized economic planning jointly constituted a devastating attack upon the power of the peasant class. These processes greatly increased the size of the urban working class without, however, expanding its class power. The stupendous bureaucratization required by state ownership of productive property, abrogation of market relations, and comprehensive economic planning¹ implied extension of the state-party bureaucracy plus amplification of its already formidable power. It had two other consequences that figure prominently in our explanation of the Soviet collapse.

The speed of bureaucratic expansion and the immensity of its responsibilities facilitated an extreme concentration of power within the very highest reaches of the bureaucratic class. This concentration averted organizational gridlock and enabled the emerging state socialist system to maintain the dynamism required by its legitimating ideology. It also gave bureaucracy the appearance of a tyrannical organization rather than a social class.² Less obvious, but equally important, was the emergence of a division between the political and the administrative dimensions of the bureaucratic class, the former anchored in the apparatus of governance and the latter in the institutions of production. Though the party-state duality characteristic of Soviet social structure does not parallel the political-administrative bifurcation, nevertheless the bifurcation is embedded within the party-state duality. In some ways the division corresponds to the ownership-management separation found within the dominant classes of corporate capitalist societies.

The ravages of World War II fixated the energies of Soviet society upon an external enemy and in certain respects froze its class structure. The class system that emerged from the war featured a demoralized and thoroughly intimidated peasantry, now organized into collective farms, a large but politically inarticulate

working class, a bureaucratic formation now more clearly partitioned into political and administrative subclasses, the latter (i.e., the administrative subclan) subordinated to the former.

In class terms, de-Stalinization involved a thrust by the administrative component of the bureaucratic class, now fortified with educated and technically specialized labor, against its complete subordination to the political subclass. The initiative was only partially successful. The extreme manifestations of tyranny, which threatened the political subclass itself, were ended but the administrative subclass did not fully overcome its power subordination. This was the first, or Khrushchev, reform period in Soviet history. The structural separation between the two class formations increased, and the political class retained hegemony. However, during the Brezhnev or stagnation era, the power of the political class gradually declined, and by the mid-eighties the two classes anchored within the regnant bureaucracy were substantially equal in power. Appendix A presents an outline of how the bifurcation into political and administrative classes is embedded within Soviet history from the Bolshevik Revolution through 1985.

A new initiative to reform state socialism and reverse the steady decline in the power of its dominant classes emerged from within the political class itself and gained expression in the policies of Gorbachev. The fundamental class problem faced by the reform effort concerned the power relation between the two sectors of the bifurcated dominant class. A process of conscious and controlled reform within the context of state socialism necessarily rested upon the commanding power of the political class. Without such power, reform might grind to a halt, escape the bounds of state socialism, or produce social disintegration. On the other hand, constructive reform could not involve extreme subordination of the administrative class, which might yield renewed tyranny and was, in any case, not feasible. The administrative class could tolerate leadership by its political counterpart, but the power advantage of the latter had to remain within narrow limits.³

Reform of state socialism would be a journey into terra incognita; no suitable models existed, and many observers doubted that significant reform was even possible within the context of socialist property relations and economic planning. The uncertainties concerned not only economic affairs, they also encompassed the reproduction of class power. I shall argue that the dynamics of reproducing class power during the second, or Gorbachev, reform period, given the particular class relations described above, explains the Soviet collapse. To see why this is so we must move from historical description to the realm of dynamic modeling (embedded in and informed by historical context and events). The next two sections respectively discuss the reproduction of class power and the kind of dynamic model implied by Soviet class relations circa 1985.

The Reproduction of Class Power

A distinctive feature of Marxist theory is its focus upon social reproduction.⁴ An element of society does not simply exist, it must be continuously reproduced. If it is not reproduced, or if it is reproduced inadequately, the element slips out of existence. Moreover, systematic (as opposed to adventitious) changes in any feature of society are caused by, or at least register within, its reproduction process. The requirement of social reproduction pertains to class power, and important changes in class relations can often be explained by analyzing how class power is reproduced. Our models of class dynamics will focus upon the reproduction of class power.

How is class power reproduced and how does it change? Classical Marxist theory suggests that these things happen mainly through a process of class struggle. The theory of class dynamics claims that class power is reproduced by means of class power or, more exactly, by the interaction between class powers. A class uses its own power to reproduce itself and to denigrate the power of antagonistic social classes. This is a crucial form of class struggle, and we call these claims about the reproduction of class power the *class struggle hypothesis*. But class struggle is not the only means of changing class power. The hypothesis merely asserts that class struggle, due to its centrality in the reproduction process, explains systemic or endogenous changes in class power.

The famous analytical philosopher Bertrand Russell understood power as capacity to produce intended effects and held it to be the most fundamental of all social variables (Russell 1938:25). In a recent article on compromise between classes, Erik Wright defines class power as “the *capacity of individuals and organizations to realize class interests*” [author’s italics] and defines class interests as “the interests of people determined by their location in the class structure” (Wright 2000:962). The emphasis upon power as a *capacity* by both Russell and Wright is continued within class dynamics theory, which accentuates, however, a particular kind of capacity: capacity to reproduce class power.

This line of argument leads to a second hypothesis about the reproduction of class power. The capacity to reproduce class power depends continuously upon the amount of class power available. More specifically, there exists a level below which class power cannot reproduce itself. A class whose power falls beneath this level is said to be *power dependent*: unless sustained by other means, the social reproduction of power fails and class power declines. Conversely, if class power exceeds the above mentioned level it can reproduce itself and the class is said to be *power autonomous*. Unless obstructed in other ways, the power of such a class will increase. We refer to this as the *power origin hypothesis* and designate the power level in question as the *stationary power level*.⁵

It is convenient to scale class power so that the stationary level equals zero. As will be seen in the next section, this simplifies class dynamics equations and renders their meaning more transparent. This choice of an origin does, however, engender negative power levels that can be confusing. A negative power level does not indicate absence of power, inability to produce effects, or production of effects opposite those intended. Negative power as used in this article only concerns the capacity to reproduce class power. It measures the extent to which class power falls below the level required for self-reproduction. A class with negative power, if left to its own resources, will experience further power decline, but can still "make waves."

It is perhaps obvious that a class able (unable) to reproduce its own power is also able (unable) to reproduce the power of other classes with which it may be allied. In other words, self-reproductive capacity translates directly into the capacity to reproduce the power of other classes. What may be less obvious is that a condition of power dependency actually enhances the power of class enemies. Yet such an effect is required by considerations of power continuity and logical consistency and emerges quite naturally from our models of class dynamics.⁶ Nonlinear models of class dynamics have polynomial terms in which the direction of the effect can change whenever one of the constituent class powers crosses the stationary power level. These shifts may seem counterintuitive, but they follow from the power origin hypothesis and requirements of logical consistency.

A Model of Soviet Class Dynamics

Both the class struggle hypothesis and the power origin hypothesis suggest modeling the reproduction of class power by means of ordinary differential equations, which are indeed the classical methods for representing continuous time dynamical systems (Hubbard & West 1995; Perko 1996). The reproduction process, considered as a whole, defines a dynamical system. Class powers are the dynamic variables in the system, and one differential equation corresponds to each social class. The equation specifies exactly how the instantaneous rate at which that class power changes depends upon the existing constellation of class powers. Since each class has one class power variable and one differential equation, the number of variables must equal the number of equations.

Models of class dynamics represent specific class systems during specific historical conjunctures. They lose validity if pushed beyond these limits. The class struggle and the power origin hypotheses provide some guidance for constructing models of class dynamics, but many possible models are consistent with these propositions. A particular model can be selected only through careful study of the historical conjuncture to which it applies. I start with the simplest possible model, explore its dynamic properties, identify its shortcomings, and introduce the minimal modifications needed to address the latter. This process continues until

it converges upon a theoretically consistent and historically enlightening dynamic model.

Perhaps the simplest class struggle model assumes universal class antagonism and linear rates of power change. Accordingly, the rate at which the power of any class changes is a positive linear function of its own power and a negative linear combination of all other class powers.⁷ Consider the case of n social classes, and designate their respective class powers at time t as $x_1(t)$, $x_2(t)$, \dots , $x_n(t)$. These are the differential equations for a strictly linear class struggle model:

$$\begin{aligned}\frac{dx_1}{dt} &= \dot{x}_1 = a_{11}x_1 - a_{12}x_2 - \dots - a_{1n}x_n \\ \frac{dx_2}{dt} &= \dot{x}_2 = -a_{21}x_1 + a_{22}x_2 - \dots - a_{2n}x_n \\ &\vdots \\ \frac{dx_n}{dt} &= \dot{x}_n = -a_{n1}x_1 - a_{n2}x_2 - \dots + a_{nn}x_n\end{aligned}\tag{1}$$

The a_{ij} are positive parameters measuring the impact of class j upon the rate at which the power of class i changes. Note the positive and negative signs in these equations. A plus indicates a contribution to building power while a minus signifies an attack upon power. The pattern of pluses and minuses in equation 1 follows from the class struggle hypothesis, and we call this model *elementary class struggle* (ECS).

Elementary class struggle is a useful baseline or comparison model, but it has serious limitations including that it always generates a polarized power structure in which the powers of one set of classes approach positive infinity while the powers of the complimentary set approach negative infinity. It certainly does not reflect the class relations that existed in the Soviet Union at the start of Gorbachev's reform process.

What model could represent class relations in the Soviet Union over the 1985-91 time interval? Parsimony is a useful principle in model building. Keep things as simple as possible until results show that greater complexity is needed. As a matter of fact, simple models often generate complicated and even paradoxical results.⁸ Thus we should ask: What is the simplest way of modifying elementary class struggle to reflect Soviet class relations? We start by considering only those two classes deemed central to the Soviet collapse: the political and administrative sectors of the bureaucracy.⁹ Other classes will be added to the model after the two class dynamics have been analyzed in isolation.

The linearity assumption of elementary class struggle remains plausible regarding the efforts of a class to build its own power. We continue to assume this proceeds in a linear fashion and in proportion to the power a class already possesses.

Where linearity breaks down is in representing the attack by one class on the power of another. The nature of the attack, in the Soviet case, depends upon both the identities of attacker and attacked and the power of each. On the basis of the historical account given in the previous section, the political and administrative class each define a specific level deemed appropriate for the power of the other and reacts accordingly. If the power of the other class falls below the designated level, then its growth is facilitated. But if it lies above that level, then that class power is attacked. The principle of parsimony suggests that the force of response (be it attacking or facilitative) is proportional to both the power of the initiator and the deviation of the target class's power from the designated level. In other words, the response force is proportional to the product of these two factors.

Our historical résumé indicated that the power level considered proper by the administrative class for the political class, call it β , exceeded the power level deemed suitable for the former by the latter, call it α (i.e., $\alpha > \beta$). In addition, we interpret the historical record to mean that the reform-bound Soviet political class preferred the administrative class to be power dependent ($\beta < 0$), while the administrative class, expecting a certain degree of leadership from the political class, preferred that it be power autonomous ($\alpha > 0$). If $x(t)$ and $y(t)$ are the powers of the political and administrative classes respectively, then our initial model for Soviet class relations during the Gorbachev period is the following:

$$\begin{aligned}\dot{x} &= a_1x - a_2y(x - \alpha) \\ \dot{y} &= b_1y - b_2x(y + \beta)\end{aligned}\tag{2}$$

where a_1 and b_1 are parameters indexing the potency of power building efforts by the political and administrative classes respectively, while parameters a_2 and b_2 measure the per unit effect of interactions between the two classes (i.e., the effect of the administrative class on the political class and vice versa). All parameter values are assumed to be positive. The model is nonlinear because both equations contain xy terms.

The powers of the political and administrative classes, as described in section 2, were roughly equal at the outset of the Gorbachev period, and this position of relative equality is near the origin or stationary position of the two-dimensional power space (often called the *phase space* of the dynamic system). It is easily seen that the origin is an equilibrium of the dynamic system because the right sides of the equation above equal 0 when x and y are both 0. However, the equilibrium at the origin is unstable; in fact it is a source or repelling point. This means that if the system is located near the origin, it subsequently moves away from it.¹⁰ The existence of an unstable equilibrium shapes the nature of the dynamic system around it, but the equilibrium itself is not encountered in the empirical world because even the slightest departure from it induces further movement away. Thus we expect the Soviet class system to be near the origin in 1985, but not exactly on it.

We can say even more about the equilibrium at the origin. Given the parameter values suitable to the Soviet context, it is quite likely — in fact almost certain —

to be a cyclical repelling point. This means the system of class power cycles around the origin in circuits of increasing amplitude as it moves away from it. The origin will be a cyclical repelling point whenever all parameters are positive and the following inequality is satisfied:¹¹

$$(a_1 - b_1)^2 < 4\alpha\beta a_2 b_2 \quad (3)$$

The political and administrative classes are both emanations of the Soviet bureaucracy, and structurally analogous dynamic parameters will surely be of roughly similar magnitude. Thus we do not expect large differences between parameters a_1 and b_1 or between parameters a_2 and b_2 . Moreover, parameters α and β respectively represent the power level each class deems appropriate for the other.¹² Because they indicate power locations, parameters α and β will surely be much larger than the other parameters in inequality 3, which have an entirely different role in the dynamic system. For these reasons we can safely assume that inequality 3 is satisfied, and that the equilibrium at the origin is indeed a cyclical repelling point.

This raises the general issue of parameter estimation. The standard procedure would involve measuring the power of each class at various points in time, and selecting the parameter values by which the dynamic model achieves the closest approximation of these measured values. This procedure founders on the difficulty of measuring class power. Any form of power is hard to measure. Class power, resting on the double abstraction of class and power, poses especially formidable barriers to measurement. Yet people in all walks of life, including sophisticated social scientists, avidly discuss the power of classes and frequently use these notions to explain political and economic affairs. Do measurement problems mean that power relations cannot be analyzed scientifically, or that dynamic models of class power are inappropriate? This would establish a deep chasm between social science and practical knowledge of human affairs. A more promising tack involves an effort to reconcile measurement limitations with the scientific value of analyzing of class power

Although the five parameters contained in equations 2 have definite intuitive meaning, I have not found any reasonable method of precise estimation. Fortunately precise estimation is unnecessary. The relevant results of a class dynamics model are not specific numerical trajectories, but *qualitative* properties of the overall dynamic system. They are answers to questions like these: What are the main destinations, that is the *attractors*, of class power movement? What is the nature of each particular attractor, and what does it imply about class relations? Which class power trajectories move towards which attractors? Do some regions of the phase space contain only periodic trajectories? For *structurally stable* dynamic systems, precise parameter estimates are not needed to answer such questions.¹³ The important modeling issue concerns whether the two dimensional dynamic system defined by equation system 2 is structurally stable. If all five model parameters

are positive, and if inequality 3 is satisfied, it can be shown that equation system 2 is indeed structurally stable.¹⁴

Emphasis upon the qualitative as opposed to the quantitative properties of the dynamical system does not mean an absence of empirical evaluation. The hub of evaluation merely shifts towards the qualitative properties derived from the dynamical system. These can provide a potent and intuitively meaningful way of testing models of class dynamics. Of course the evidence used to test the model is also qualitative in nature, which follows from the fact that power resists precise measurement. Thus we might test the elementary class struggle model defined in equation system 1 by observing whether class power polarizes as the model predicts it will.

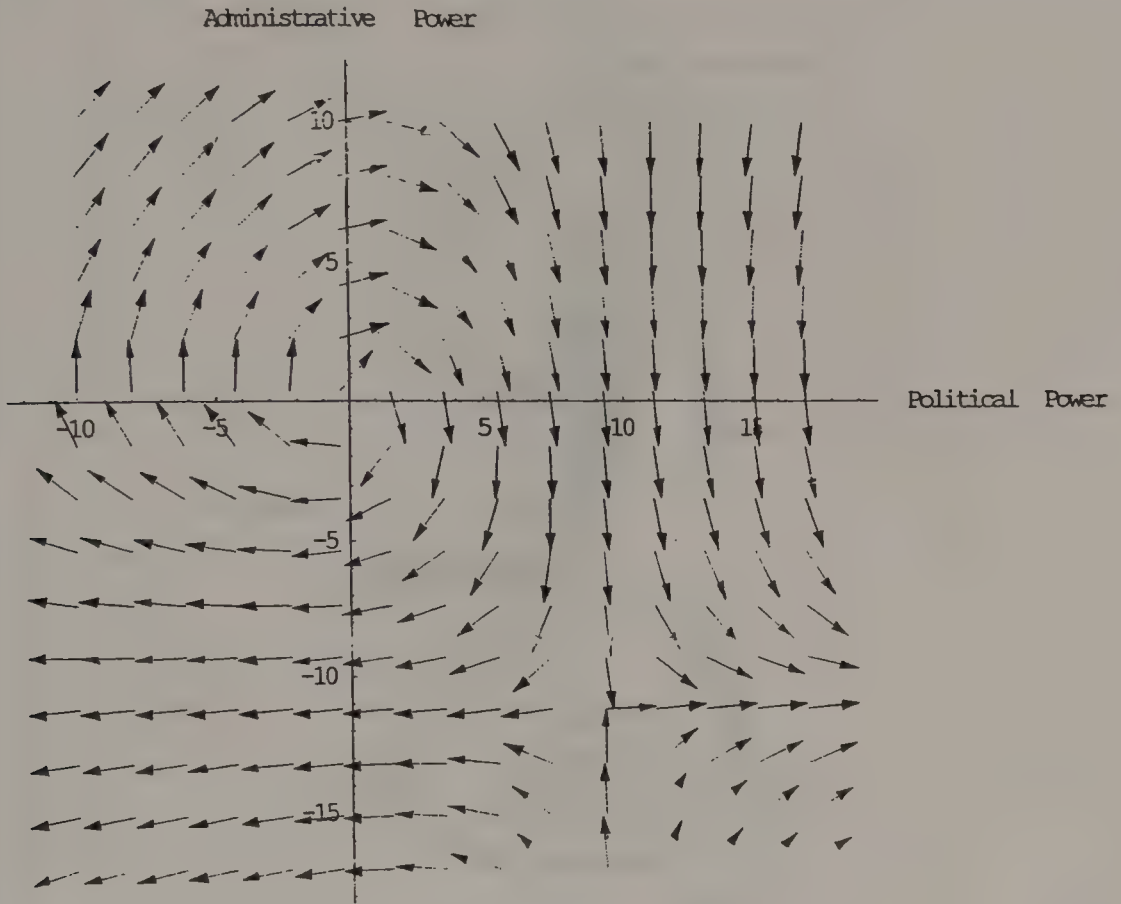
In keeping with the qualitative approach, and to facilitate intuitive comprehension, this article emphasizes graphical rather than symbolic representations of dynamical systems.¹⁵ We do this through graphical examination of three increasingly complicated "typical" or "generic" models. Each of these typical models builds upon the one before by adding a different social class to the picture. The first model, which considers only the political and administrative classes whose interaction lies at the heart of Soviet collapse, is defined by equations 2 and satisfies inequality 3. Structural stability guarantees that the qualitative or topological properties of the exemplar also characterize the entire class of models under investigation. When studying systems of more than two dimensions, structural stability is far more difficult to determine, and thus arguments about generality cannot rely upon it. If unable to establish the generality of a qualitative characteristic by analytical methods, we conduct numerical explorations to insure its genericity. The graphical methodology used herein is hardly unique. Many distinguished works take a graphical approach to the study of dynamic systems (Abraham & Shaw 1992; Abraham, Gardini & Mira 1997; Field & Golubitsky 1992; Jackson 1991; Peitgen, Jürgens & Saupe 1992).

In our initial graphical representations we use one of the simplest possible positive valued parameter sets satisfying inequality 3:

$$a_1 = a_2 = b_1 = b_2 = 0.1, \alpha = \beta = 10 \quad (4)$$

This parameter set is entirely generic (i.e., typical) and has the virtue of facilitating clear graphical diagrams. These parameter values have been chosen partly because they render the constructive and destructive forces operative within the system essentially equal, and also make the preferred power positions symmetric around the origin (i.e., the stationary power level). In the absence of information or hypotheses to the contrary, such uniformity appears to be a prudent choice.¹⁶

FIGURE 1: Normalized Vector Field of Two-Dimensional Model for Political Class Power (Horizontal Axis) and Administrative-Class Power (Vertical Axis)



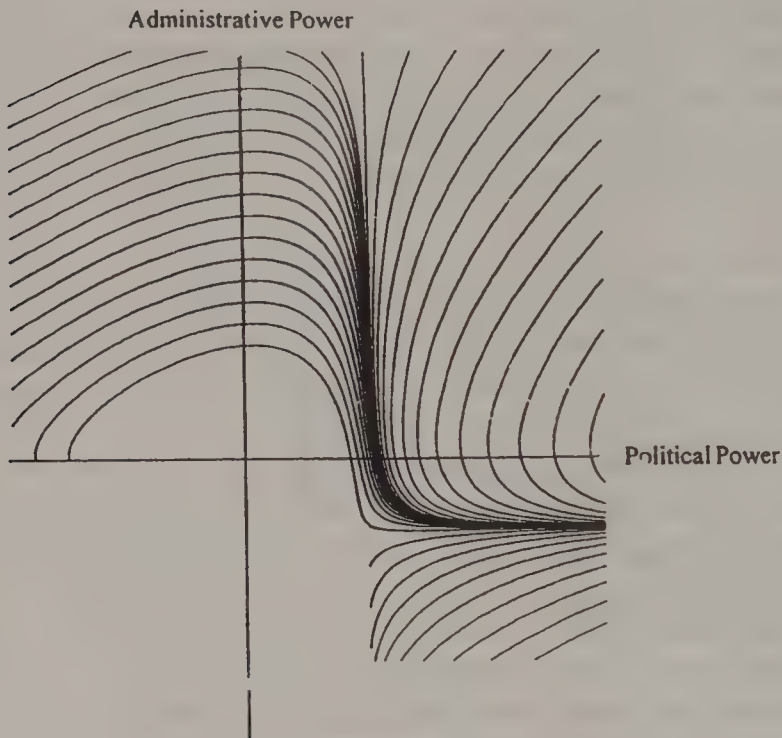
Note: Vectors have been normalized to be all of the same length. The direction of a vector from its starting point is accurate, but the magnitude is misleading.

A Tale of Two Attractors

In March 1985, when Mikhail Gorbachev became general secretary of the Communist party, neither the Soviet state nor the state socialist economic system appeared unstable. The Communist elite knew, of course, that Soviet economic performance had lagged behind that of advanced capitalist countries for at least a decade, but it seemed entirely possible that internal reforms could eliminate or even reverse the disparity.¹⁷ Citizens held important grievances against the Communist system, including lack of personal freedom and inadequate consumer goods, but, outside the Baltic republics, no significant part of society doubted the legitimacy of the Soviet Union or longed for a capitalist economy. An established

FIGURE 2: Trajectories Leading to the Political Dominant Attractor and Trajectories Leading to the Power Loss Attractor

Political dominant trajectories



Power loss trajectories

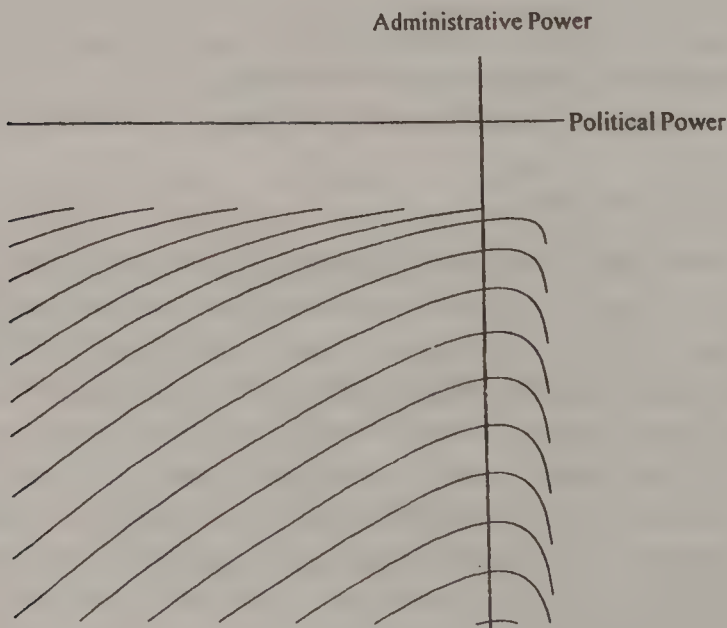
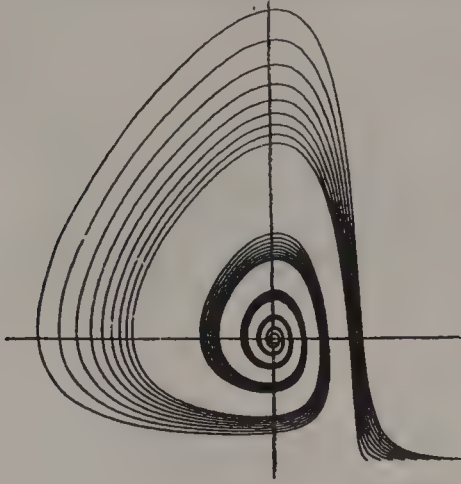
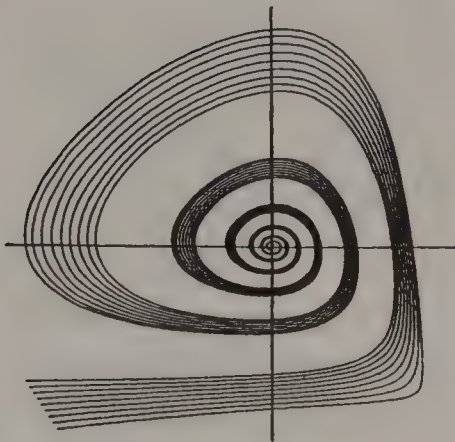


FIGURE 3: The Structure of the Political Dominant and the Power Loss Basins Near the Origin

Political dominant trajectories



Power loss trajectories



How trajectories separate

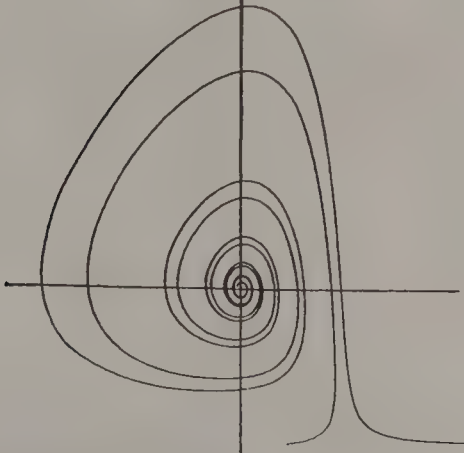


FIGURE 4: The Effects of Positional Random Shocks on Trajectories

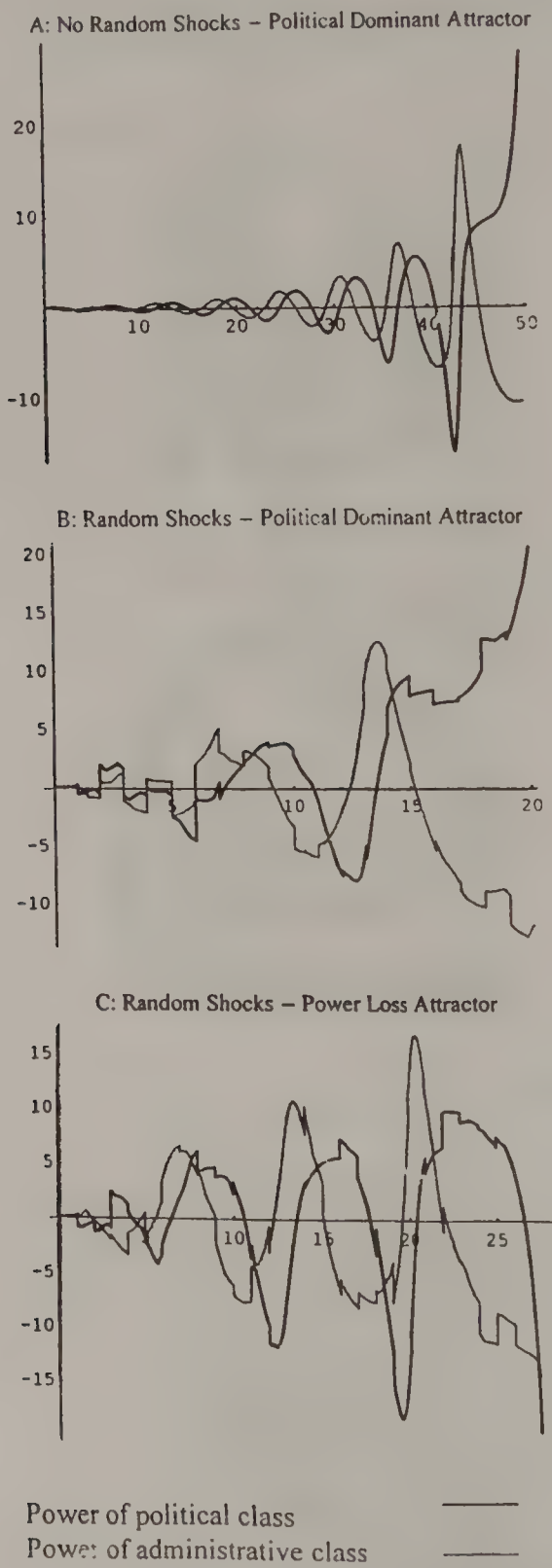
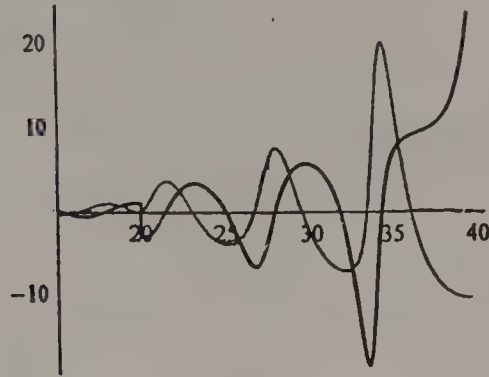
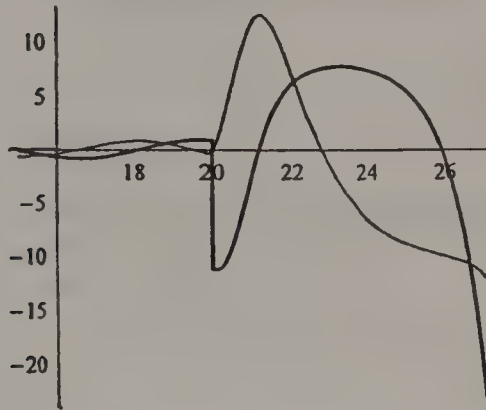


FIGURE 5: Political Rebound Effects

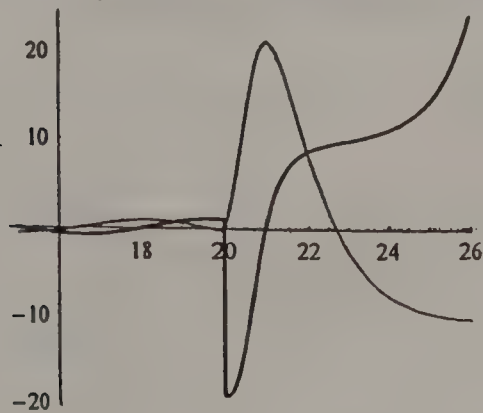
A: Moderate political shock – Political dominant attractor



B: Large political shock – Power loss attractor

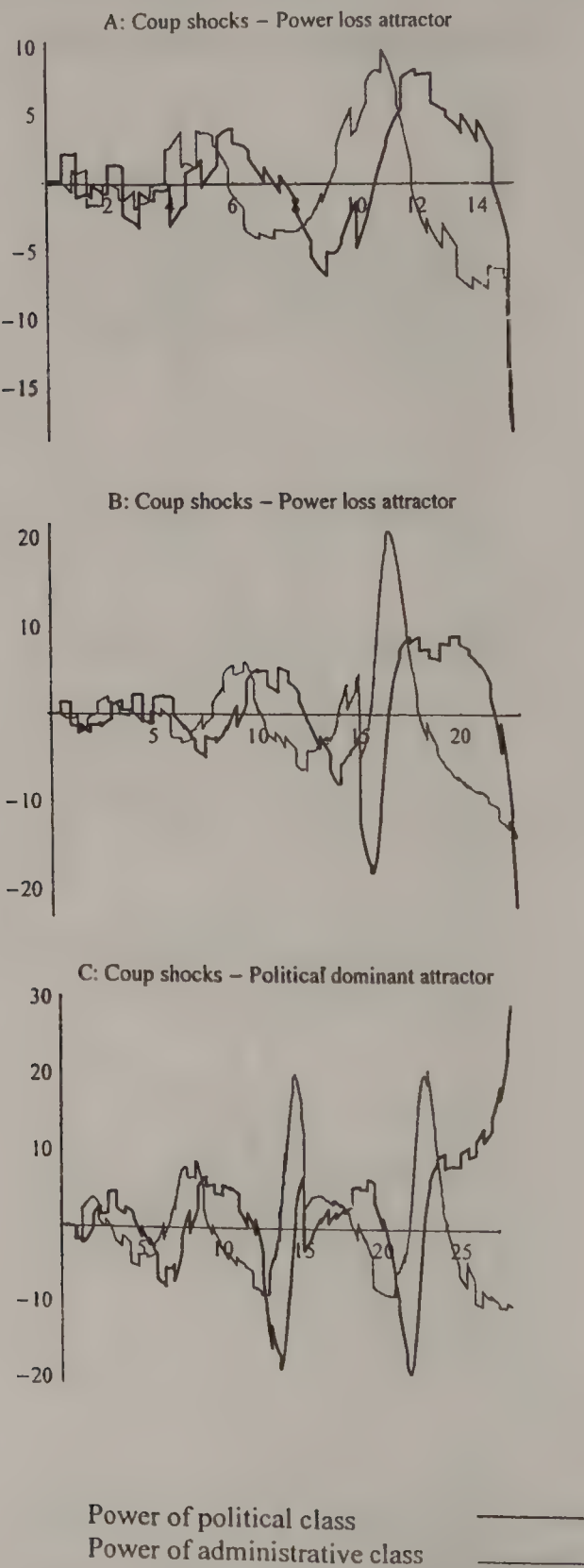


C: Very large political shock – Political dominant attractor



Power of political class ———
Power of administrative class - - - - -

FIGURE 6: Effects of the August Coup on Class Dynamics



social order can normally withstand severe pressures, and the Soviet system had withstood civil war, famine, purges, scorched earth warfare, and many decades of hostile international relations.¹⁸

If the dominant classes retain power, a collapse like that experienced by Soviet Communism is almost impossible. But despite the absence of any revolutionary assault upon them, the dominant classes of Soviet society were unable to retain power. As indicated above, the essential vulnerability of the Soviet system came from the bifurcation of the dominant classes and the fact that, at the start of the second reform era, power relations between the two subclasses of the bureaucracy were unresolved. The class history of the Soviet Union between 1945 and 1985 can be summarized as a narrowing of the power gap between the political and the administrative subclasses so that, when Gorbachev became general secretary, substantial equality existed (see Appendix A).

What does the two-class model discussed in the previous section imply about Soviet class dynamics? To understand this, consider a plane in which the horizontal axis is defined by the power of the political class and the vertical axis by the power of the administrative class. This is called the *phase plane* of the dynamic system. The *vector field* of the system (using the exemplary parameter set given in equation 4) is presented in Figure 1.¹⁹

The arrows have been normalized to be of equal length. They indicate the direction but not the magnitude of motion from each point in the political class power–administrative class power phase plane. Several aspects of the dynamic system can be detected from the normalized vector field. There is clearly circular movement around the origin, and careful inspection of Figure 1 indicates that the amplitude of the power cycles is increasing. The vector field also reveals a *saddle point* at approximately $x = 9.2$, $y = -11.2$.²⁰ The trajectories leading into the saddle point are called *separatrices* because they separate different *basins* of the phase plane.²¹

Less obvious, but of at least equal importance, is the existence of two very different attractors both of which are said to be located at “infinity,” that is, outside any bounded region of the phase plane.²² When a class power trajectory approaches the first attractor, which we call the *political dominant attractor*, the power of the administrative class approaches the level deemed appropriate by the political class (in this case -10 because $\beta = 10$ in the exemplary parameter set), while the power of the political class grows arbitrarily large. When a trajectory approaches the second attractor, called the *power loss attractor*, the powers of both classes move towards negative infinity. With a few inconsequential exceptions, all trajectories eventually approach one of these attractors.²³

Each of these attractors has a clear substantive meaning. If the class power system moves towards the political dominant attractor, then the political class establishes unequivocal and unassailable hegemony over the administrative class, but does not annihilate the power position of the latter. On the other hand, if the system

moves towards the power loss attractor, then both sectors of the once dominant bureaucratic class suffer a drastic power loss and can no longer exercise leadership or protect the core social institutions. This, I shall argue, is what happened in the Soviet Union between 1985 and 1991. To establish this claim, it is necessary to show how the Soviet class system embarked upon such a path, and why this was so unexpected.

What are the *basins* of the two attractors? That is, from what points of the phase plane would the system move towards the political dominant attractor, and from what points would it move towards the power loss attractor? If the power of the political class and the power of the administrative class are both significantly below the standard level, then the class system moves towards the power loss attractor. But if the power of either class lies significantly above the standard level, then the system moves towards the political dominant attractor. Some political dominant trajectories and some power loss trajectories (but not the complete basins) are presented in Figure 2.

Considering the four quadrants of the phase plane, it is clear that most of quadrants 1, 2, and 4 lie within the basin of the political dominant attractor, while most of quadrant 3 lies within the power loss basin. Quadrant 3 is the region in which neither political nor the administrative class can reproduce its own power, so it is not surprising that this quadrant lies mainly within the power loss basin. Bear in mind that model trajectories are not empirical predictions, but theoretical tendencies based exclusively upon class power interactions considered in isolation from all other social forces. These trajectories delineate the hypothetical force field established by the pristine dynamics of class power.

No matter how great the current power of the administrative class may be, the model implies that it cannot establish enduring dominance over the political class. Yet Figure 2 shows that the path leading towards the political dominant attractor can be highly nonlinear. Suppose, for example, that political class power is very low while administrative class power lies at or above the stationary level (i.e., the class system is in the second quadrant). The powers of both classes increase until political class power nears the level considered appropriate by the administrative class. Then administrative class power drops precipitously until it approaches the amount sanctioned by the political class, after which the former stabilizes while the latter increases rapidly thus moving towards the political dominant attractor.

Or consider what happens from typical locations in the first quadrant (i.e., with political class power and administrative class power both well above the stationary level). Both class powers decline with administrative class power dropping faster than political class power. Near the 0 or standard level of administrative power the trajectory executes a sharp turn as political class power increases rapidly while administrative class power asymptotes at the level approved by the political class.

The interesting and, for understanding the collapse of Soviet Communism, the relevant process is what happens in the neighborhood of the origin, the region where

the Soviet class system was located at the start of the second reform period. Around the origin, as we have already seen, trajectories describe a power cycle of increasing amplitude. The speed of rotation increases as orbits recede from the origin, and eventually the cycling around the origin stops and the system moves towards either one of the attractors. The basins of the two attractors therefore wind ever more tightly around each other approaching the origin. Figure 3 diagrams the political dominant and the power loss basins near the origin and also shows how trajectories starting close to the origin can eventually separate and move towards different attractors. This separation, it should be noted, takes place near the saddle point of the system.²⁴

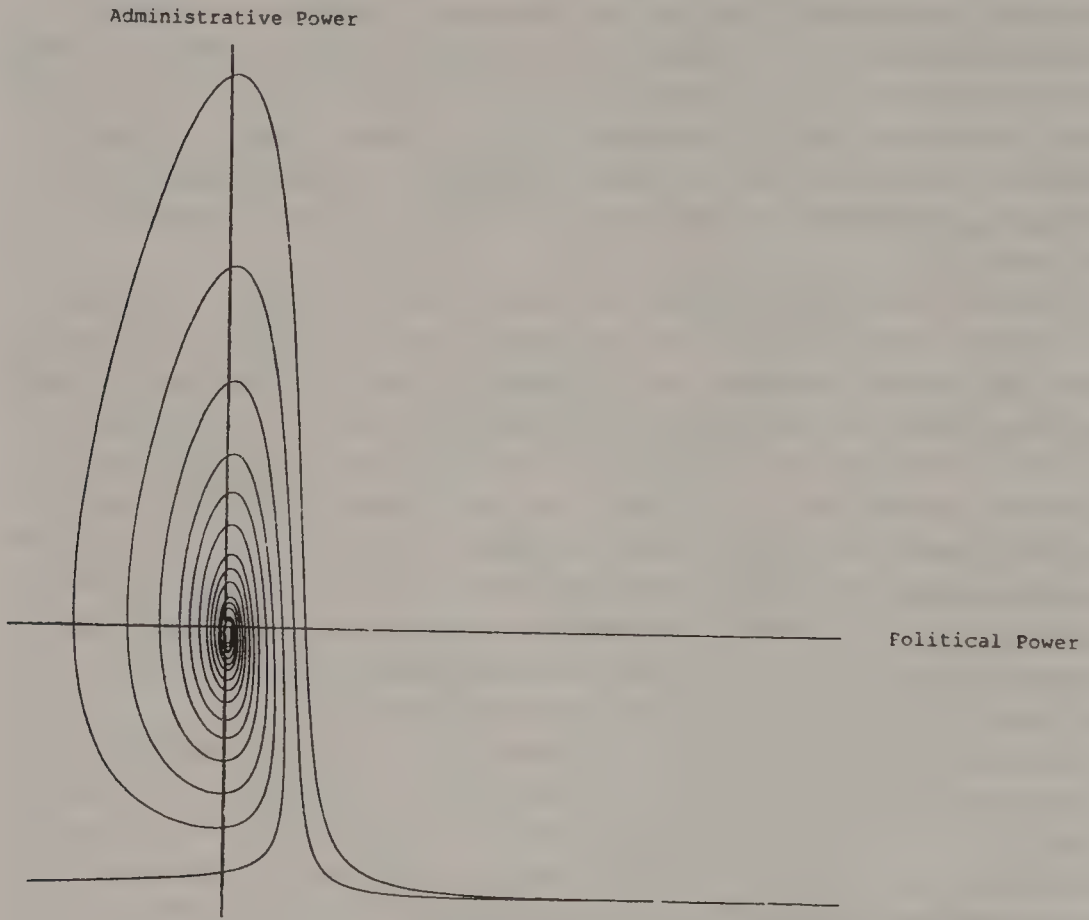
This is an example of what is sometimes called *final state sensitivity* (Peitgen et al. 1992:757). In the neighborhood of the origin, the final state, that is the attractor, towards which the class system moves depends in a sensitive way upon the initial position. In fact the boundary between the two basins has the properties of a fractal²⁵ around the origin. Even though our model of class dynamics is entirely deterministic and leaves nothing to chance, for systems starting near the origin it is quite impossible to predict whether they will end up with dominance of the political class or with bilateral power loss. Even the slightest change in the starting position can cause a switch in the final destination. Even if one could measure power with high accuracy, sufficiently close to the origin, the precision requirements of prediction defeat even the most rigorous scaling technology.

This illuminates the unexpected character of the Soviet collapse. It was unexpected, in part, because it was objectively unpredictable. Even with full knowledge of our model (assuming its veridicality) and all its parameters, even without any exogenous perturbations, given unavoidable limits on the accuracy of measurement, forecasting the collapse would have been quite impossible. But of course the theoretical underpinnings remained totally unknown and the perturbations numerous. Many observers, from Trotsky onwards, noted the overweening dominance of the Soviet bureaucracy, but few if any recognized its bifurcated nature and the vulnerability implicit within the relationship of the bureaucratic subclasses.²⁶

Perturbation Effects

Soviet history was never a smooth unfolding of power relations. Throughout its existence the system was buffeted by disturbances of various magnitude, which altered, among other things, power relations between classes. Many of these disturbances were generated by the Soviet system itself, but others came from external events or even natural disasters. The second reform period from the ascension of Gorbachev in March 1985 to the dissolution of the Soviet Union in December 1991 experienced numerous perturbations, some of which are well

FIGURE 7: How Working Class Power Effects the Destinations of Political Power and Administrative Power



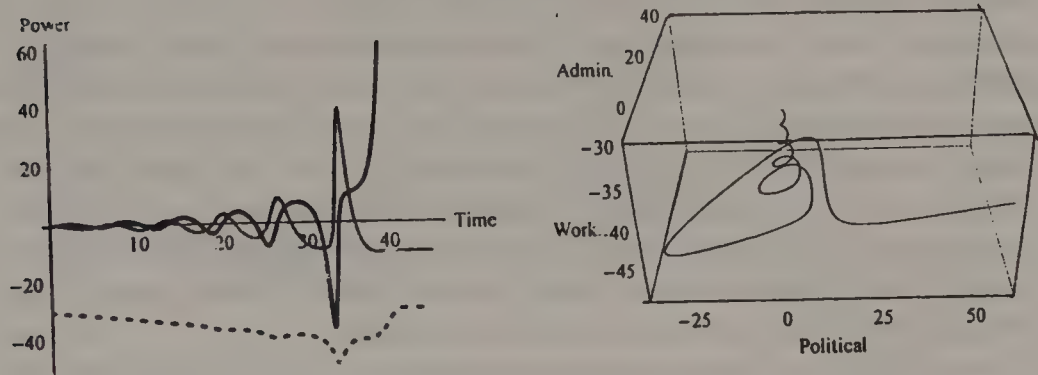
known — collapse of world oil prices in 1986, Chernobyl disaster, destruction of the Berlin Wall — but many would only be familiar to students of Soviet history. While it is difficult to know exactly what constitutes a power perturbation, Appendix B presents a chronology of important events treated as disturbing in newspaper accounts, memoirs, and histories of the second reform period.

This chronology suggests that the frequency of disturbing events increases from 1985 through 1991. While this may be so, it is also possible that such an appearance results from the growing volatility of power processes.

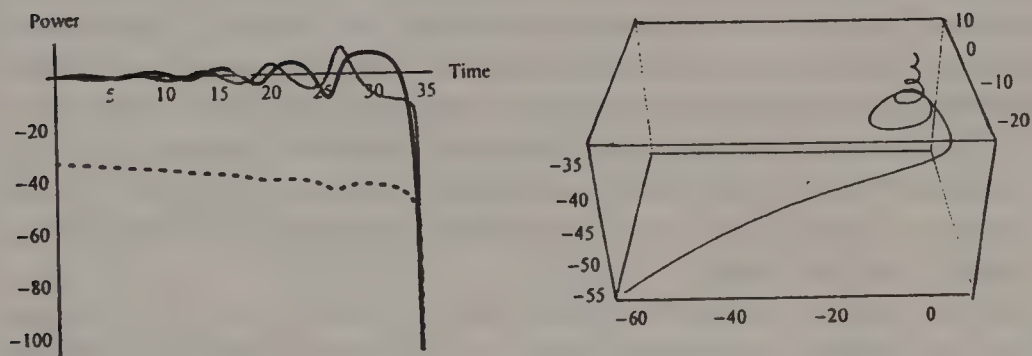
Does the prominence of exogenous perturbations undermine a class dynamics interpretation of Soviet collapse? Not at all. According to class dynamics theory, the perturbations or shocks impinge upon class relations which, in turn, govern their effects upon society. The shocks, as we shall see, certainly alter trajectories of class power, including the destinations towards which these trajectories proceed. But if the shocks are truly exogenous in character, they do not change the fundamental dynamics of the system. For example, the perturbations listed in Appendix B do not eliminate the power cycling discussed earlier, although they do

FIGURE 8: Three Attractors — Time Series Representations

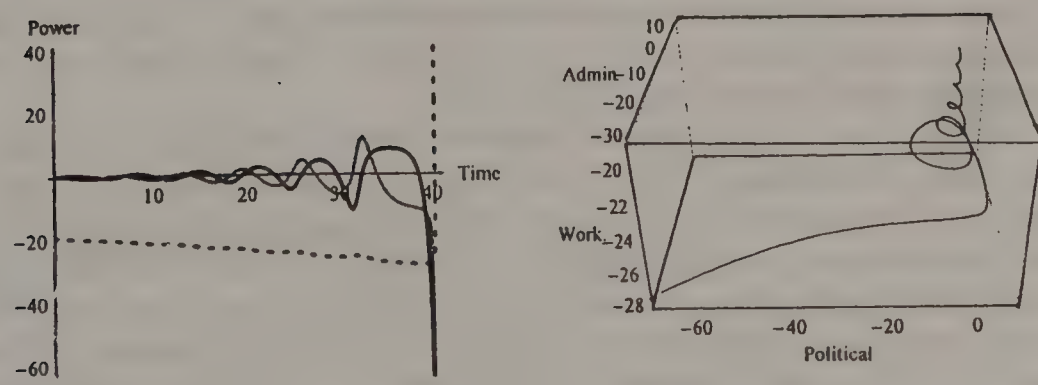
A: Political dominant attractor



B: General power loss attractor



C: Power loss attractor with working class gain



Political class
Administrative class
Working class

—
—

change the character of the power cycles. Nor do the exogenous shocks create new attractors, although they can determine whether the political dominant or the power loss attractor is the one approached.

How can historical perturbations be incorporated into our analysis of Soviet class dynamics during the second reform period? We shall treat these disturbances as positional shocks that instantaneously change the power of the political and the administrative subclasses. After a shock occurs, the dynamic system operates in an unchanged manner, but from the new position in the state space resulting from the shock.²⁷ We also assume that the occurrence of perturbations is independent of the current state of the class system. This assumption is at least doubtful, but it serves as a first approximation, and no plausible means of linking system state with the occurrence of shocks has occurred to the author.

Random positional shocks enter the analysis in the following way. The magnitude of the positional shocks are assumed to be uniformly distributed over the interval $(-\zeta, \zeta)$ where ζ is a parameter to be determined. Unless otherwise indicated, perturbations affecting different class power variables are independent of each other. Positional shocks happen at constant time intervals of length δ , and are staggered so that the political and administrative classes do not experience them simultaneously. The numerical magnitude of a shock is simply added to the current value of the corresponding class power variable. The nature of power cycles and the distribution of attractor destinations can be influenced by the ζ and δ parameters, but scientific interest lies in the qualitative properties of the system, not in numerical fine tuning.

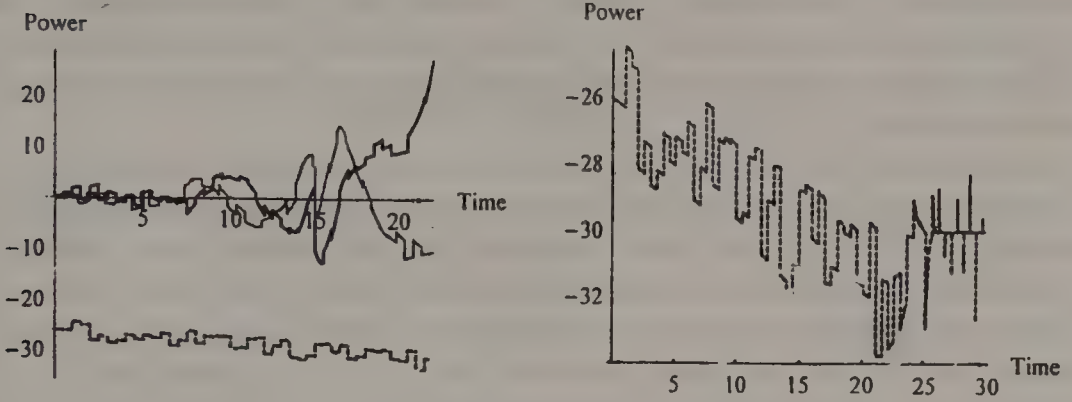
Starting the system near but not on the origin — at point $(.1, .1)$ in the examples used in this article — power trajectories describe smooth cycles of gradually increasing amplitude. This particular starting point leads to the political dominant attractor, but near the origin a tiny change in initial condition can of course alter the outcome. These power trajectories are plotted in panel A of Figure 4 and provide a baseline against which the perturbed trajectories in panels B and C can be compared. About 50 time units elapse before power cycling ends and the system moves towards the political dominant attractor.

In Figure 4 (as in Figures 5 and 6) the horizontal axis indicates time and the vertical axis indicates power. The perturbed trajectories are constructed with $\zeta = 2$ and $\gamma = .5$. Thus random shocks are uniformly distributed over the interval $(-2, 2)$ and shocks occur to each class power variable every .5 time units.²⁸ The trajectory in panel B of Figure 4 moves towards the political dominant attractor, while the trajectory in panel C approaches the power loss attractor. Two principal effects of random shocks are (1) increasing the amplitude of the power cycles, and (2) diminishing the time during which cycling occurs (i.e., the time interval before commitment to an attractor).

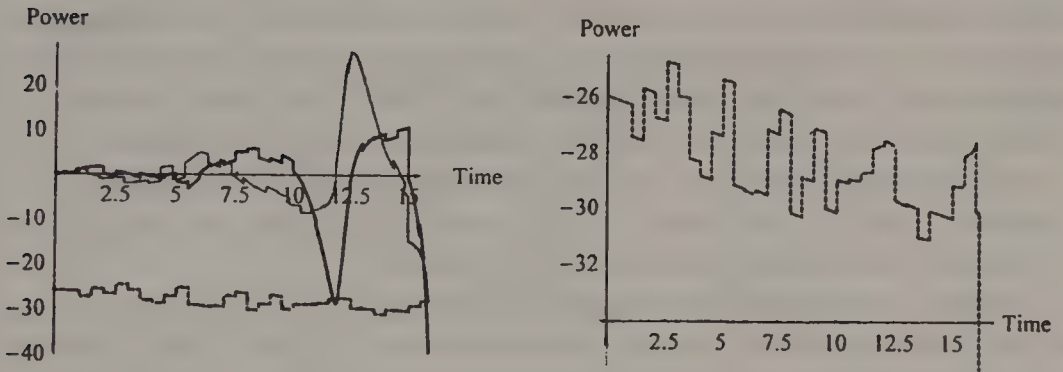
Because the parameters in this model were chosen for illustrative purposes, I have not systematically investigated its probabilistic properties. Yet among the

FIGURE 9: Time Series Representations of Perturbed Class Trajectories — Working Class Detail (Continued)

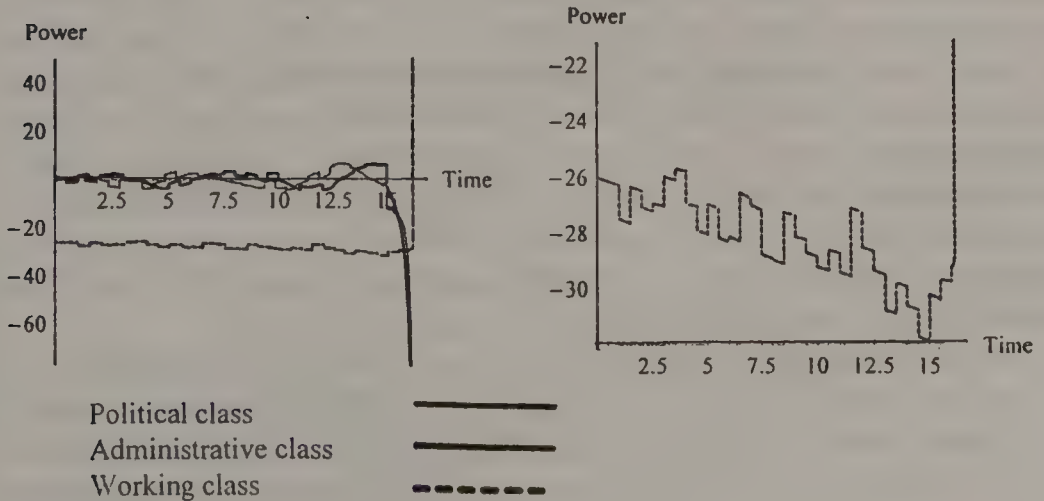
A: Political dominant attractor



B: General power loss



C: Power loss with working class gain



numerous independent repetitions of this process, the political dominant attractor is approached in about 70% of the cases. If movement towards the power loss attractor is interpreted as system collapse, then the occurrence of random shocks cannot of itself explain the demise of the Soviet Communism. Bear in mind, however, that without random shocks the dynamic system necessarily approaches the political dominant attractor. The existence of random shocks renders system collapse a distinct possibility regardless of where (in the neighborhood of the origin) the process starts.

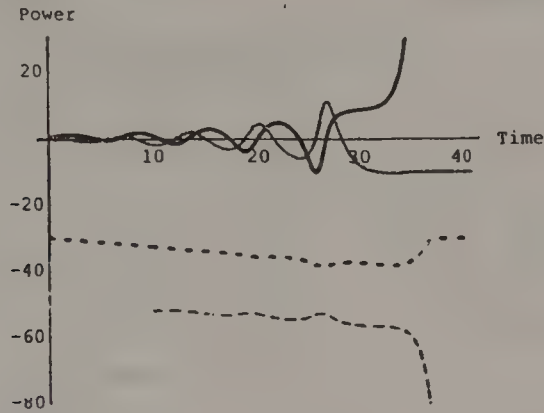
Exactly how do perturbations affect the power of classes in Soviet society? A counterintuitive aspect of the class dynamics model is what we call the *political rebound effect*. Suppose the Soviet class system is in the midst of power cycling. If the power of the political class experiences a sudden negative shock while the power of the administrative class remains unscathed, then political class power rebounds almost immediately and quickly becomes even larger than it was prior to the perturbation. If the negative shock is sufficiently large, the rebound propels the class system entirely out of the power cycling phase and sets it upon the approach to the political dominant attractor. The power of the administrative class, on the other hand, experiences an upward spike commensurate in height to the magnitude of the shock, but quickly declines as political class power rises.²⁹ Three illustrations of the political rebound effect appear in Figure 5. They correspond respectively to shocks of moderate, large, and very large magnitude, and each happens at $t = 20$. Observe that, notwithstanding the chance of rebounding out of the cycling phase altogether (Figure 5C), the system can still approach the power loss attractor even after a large fall in political class power (Figure 5B).

The political rebound effect suggests that even the most ferocious attacks upon the power of the political class alone need not induce a collapse of the Soviet class system. They might even stabilize it. Thus events like the release of Andrei Sakharov from exile, the conflict over Nagorno-Karabakh, the television coverage of the Congress of People's Deputies, and even the destruction of the Berlin Wall, insofar as they assailed political class power exclusively, probably did not undermine the Soviet class system. Administrative class power, on the other hand, does not have the same resiliency towards assaults upon its power. Indeed, within the power cycling phase, a sufficiently large setback to administrative class power invariably leads towards the power loss attractor and system collapse. The combined effect of sequential perturbations to political and administrative class power is extremely complicated and certainly not reducible to the effect upon either one. Once a trajectory has finished cycling and clearly moved towards an attractor, then further perturbations (of plausible magnitude) will not alter this result.

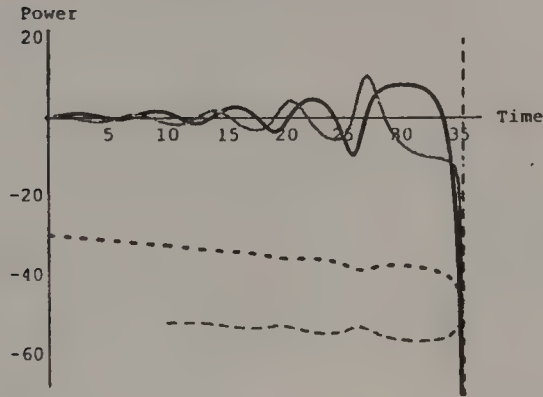
Our analysis suggests that the Soviet class system, with its bifurcated dominating class, was vulnerable to power loss and subsequent collapse, but it does not show that such an outcome was inevitable or even very likely. To carry the argument further we now consider a more disruptive and less random perturbation. Students

FIGURE 10: Four Classes with Three Attractors — Time Series Representation

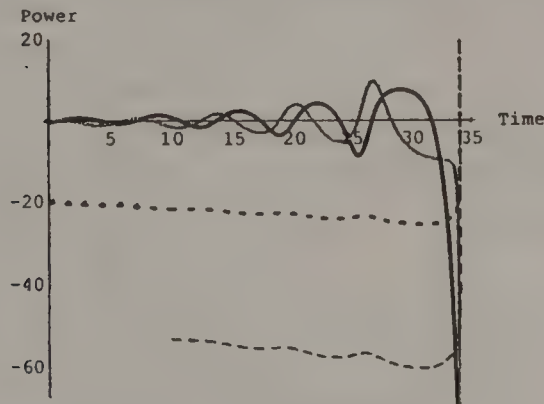
A: Political dominant attractor



B: Capitalist class dominance

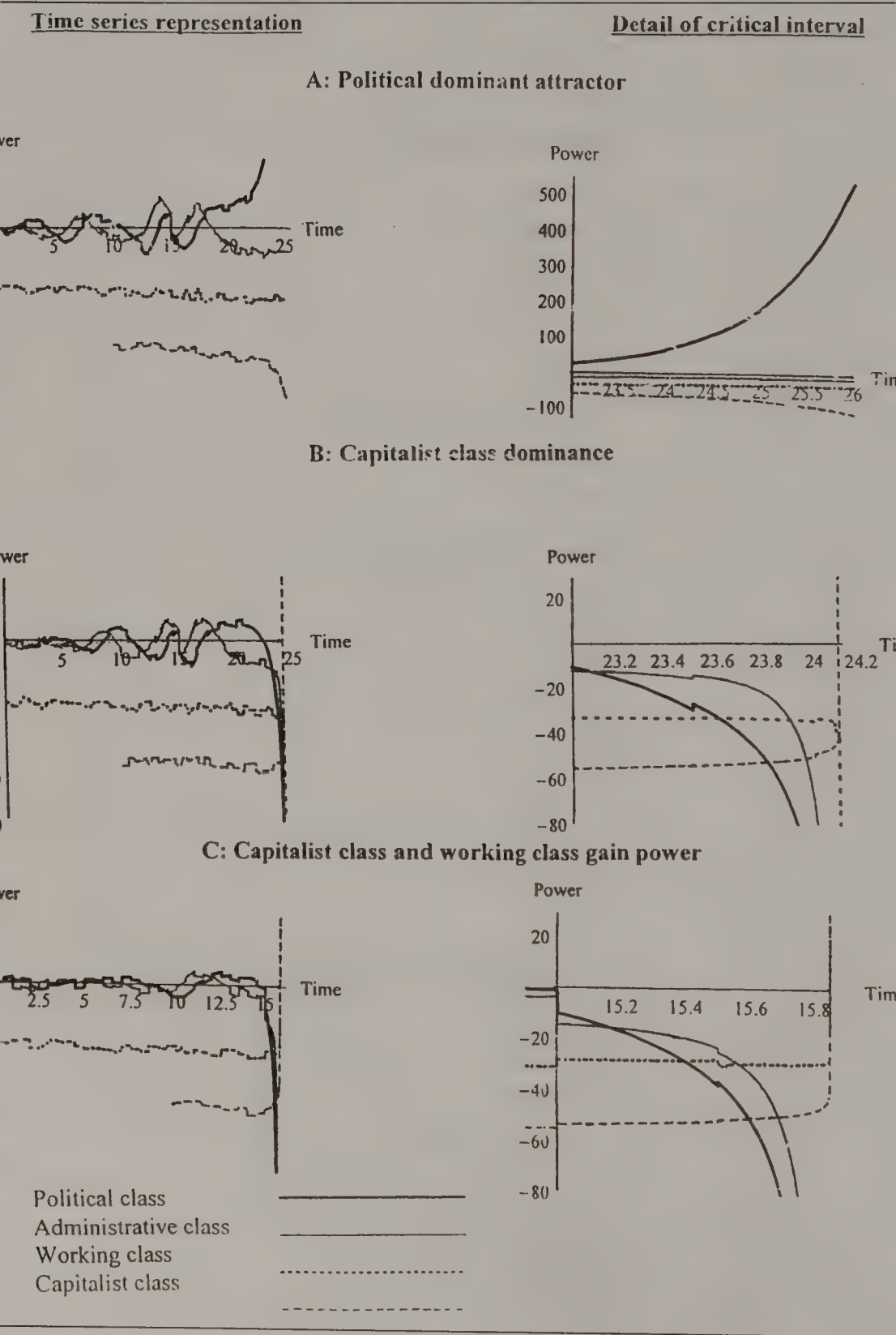


C: Capitalist class and working class gain power



Political class	_____
Administrative class	_____
Working class
Capitalist class	-.-.-.-

FIGURE 11: Perturbed Trajectories of Four Classes — Time Series Representation with Detail of Critical Interval



of the Soviet collapse have emphasized various critical events. Some stress the absence of budget balancing price reforms during the 1987-88 precrisis interval. Some emphasize Gorbachev's resistance to facing a popular election as president of the Soviet Union in March of 1990. Others point to the rejection of the 500-Day Plan and the departure of Gorbachev's more liberal advisors, or to Yeltsin's June 1991 election as president of the Russian republic. Virtually everyone agrees, however, that the attempted coup by conservative Communists in August 1991 is a distinctive turning point. A few (including some of Gorbachev's advisors) view the August coup as the definitive cause of Soviet collapse. Others interpret it as the straw that broke the camel's back. If not itself the death knell of the Soviet system, the August coup at least advertised a fatal ailment and ushered in the final act. Without accepting any particular interpretation of the attempted coup, let us examine how a single large power decrement might effect Soviet class dynamics.

The impact of a single large power decrement upon our randomly perturbed model of Soviet class dynamics depends upon both magnitude and time. A big enough drop in both political and administrative class power can always place the system within the power loss basin, but a giant decrement resembles a *deus ex machina* and is neither interesting nor informative. A large but not outlandish power loss either very early or very late in the game does not decisively affect the denouement. If very early, the impact is not particularly different from that of a modest random shock. If very late, the destination has already been set. Modeling the impact of the August coup at intermediate times and levels accords well with both common sense and the historical record. The coup occurred 6.5 years into the second reform period, and its independent impact cannot be compared with events like the collectivization of agriculture, the Great Purge, World War II, or the Cuban Missile Crisis.

We represent the August coup as a decrement of ten power units to both administrative and political class power occurring fifteen time units into the modeling process. Modest changes in either the magnitude or time of impact do not substantially change the outcomes. The random shock parameters remain the same. This representation of the August coup shifts the picture a great deal. The great majority of destinations, perhaps as many as 80%, are now the power loss attractor.³⁰ Three representative scenarios, including one that approaches the political dominant attractor, are plotted in Figure 6. The shocks depicting the August coup can be detected at $t = 15$.

Sometimes power cycling stops immediately after a coup as in case A. When this happens it invariably signifies an approach to the power loss attractor. Sometimes, as in case B, the cycling continues a bit longer before the power loss attractor is approached. The simulations I have conducted suggest that the longer the cycling continues, the greater the chance of approaching the political dominant attractor.

This analysis implies that the Soviet Union was vulnerable but not moribund or certain to collapse in August 1991. The Soviet class system could and did survive small or even moderate power losses, but the August coup — if our representation has any merit — was no small or moderate disturbance. The class dynamics approach emphasizes that important historical happenings, while capable of rigorous explanation, are seldom really predictable, not even in the short run. Apropos of this, our model suggests the Soviet system, though ideologically demoralized and economically afflicted, had a far more than negligible chance of surviving even the August coup.

Enter the Working Class

Bolshevik ideology conceived the Russian Revolution of 1917 as the first shot of an international proletarian revolution, and it did have broad working-class participation, particularly in Petrograd and Moscow (Kaiser 1987; Koenker 1981; Rabinowitch 1976). For a variety of reasons, the independent power of the working class declined after the revolution and especially after the civil war of 1918-21. Strikes were illegal during most of Soviet history, and labor unions were essentially branches of the state. Although the size of the working class expanded dramatically so that by 1980 some 80 million people might be included therein, and although it was difficult to fire a worker, working-class influence over policy formation remained small. The July 1989 strike of coal miners in the Ukraine and Siberia was the first broad and independent labor action in over six decades.

How did the working class bear upon the collapse of Soviet Communism? It was not part of the main process leading to the collapse. This is why the working class has not been considered in previous sections, but its impact was by no means negligible. At the start of the second reform era in 1985, the power of the working class was far lower than that of either the political or the administrative class. The latter classes were entirely unified in opposing any significant extension of working-class power, but did not wish to pulverize what limited power the Soviet working class did possess. The working class, for its part, related to the political and administrative classes antagonistically, but its influence upon them was small. Working-class power in 1985 was well below the reproduction level, so that it could not independently reproduce even the limited power it did have.

Translating these relationships into dynamic equations yields the following model:

$$\begin{aligned}\dot{x} &= a_1x - a_2y(x - \alpha) - a_3z \\ \dot{y} &= b_1y - b_2x(y + \beta) - b_3z \\ \dot{z} &= c_1z - c_2x(z + \gamma) - c_3y(z + \gamma)\end{aligned}\tag{5}$$

where $z(t)$ is the power of the Soviet working class and, as before, $x(t)$ and $y(t)$ are the powers of the administrative and political classes respectively. The relationship between the classes discussed in the last paragraph implies the following inequalities among parameters:

$$\begin{aligned} a_3 &< \alpha_1, \alpha_2 \\ b_3 &< b_1, b_2 \\ -\alpha &< \beta < \gamma \\ z(0) &< 0 \end{aligned} \tag{6}$$

Parameters $a_1, a_2, b_1, b_2, \alpha$, and β also appear in dynamic equations 2, which only concern the political and administrative classes. Their previous values, given in equation 4 above, have been retained. Numerical explorations indicate that the qualitative properties of this dynamic system do not typically depend upon the exact parameter values.³¹ The following parameter values satisfy the inequalities above, generate plausible dynamic characteristics, and also have the virtue of simplicity:

$$a_3 = b_3 = c_1 = .01, \quad c_2 = c_3 = .1, \quad \gamma = 30. \tag{7}$$

These parameter choices make the autonomous power reproducing capacity of the working class (c_1) only one-tenth that of either the political class (a_1) or the administrative class (b_1). Moreover, the influences of the latter classes upon the former (c_2 and c_3) are ten times as large as the influences of the former class on the latter two (a_3 and b_3). The difference between the level of working-class power acceptable to both the political and administrative classes ($-\gamma$) and the level of administrative class power acceptable to the political class ($-\beta$) equals the difference between the latter and the level of political class power acceptable to the administrative class (α). These parameter values are used in the remainder of this article.

Because the influence of the working class on the powers of the other two classes is so small, given the parameters in equations 6, it is natural to ask whether the working class could have any bearing upon the collapse of Soviet Communism. The answer is yes. Because of the final state sensitivity existing at the origin of the phase space (see Figure 3), the working class, despite its weak influence, can still have a decisive effect upon Soviet collapse. To show this possibility, we hold constant all model parameters as well as the initial positions of the political and administrative classes (placed very near but not at the origin). If the initial power position of the working class is varied over a small range around $z(0) = -30$, the Soviet class system approaches different destinations. Three partial trajectories³² are given in Figure 7: two approaching the political dominant attractor (turning to the right) and one approaching the power loss attractor (turning to the left).

As the name suggests, final state sensitivity means that weak forces can have strong effects when applied at the point of sensitivity. Sensitivity also implies the virtual impossibility of predicting how variations in working-class power affect ultimate destinations if the class system is near this critical point.

If the political class becomes hegemonic, that is if the Soviet class system approaches the political dominant attractor, then the powers of the administrative and working classes respectively approach the levels acceptable to the political class. Thus $y(t)$ approaches $-\beta$ and $z(t)$ approaches $-\gamma$ as time increases. This may be seen in panel A of Figure 8, which presents both time series (left) and phase space (right) representations of the process.³³ The diagrams in Figure 8 give deterministic versions of class dynamics without random shocks.

Although inclusion of the working class does influence the destination approached by the political and administrative classes, it does not change the possibilities available to these classes. As before, they face either power dominance by the political class or catastrophic loss of power by both classes. What happens to working-class power if the other two classes suffer catastrophic power loss? Two possibilities exist. Either the working class also suffers a precipitous power loss, or it escapes the debacle of the political and administrative classes and gains power as the power of the once dominant classes falls through the floor. Which possibility happens depends upon the level of working-class power when the powers of the other classes begin their precipitous drop. If working-class power lies above $-\gamma$ when the drop begins, then the power of workers subsequently rises. On the other hand, if working-class power is at or below the $-\gamma$ level, it also plunges abruptly. These alternatives appear in panels B and C of Figure 8.³⁴

Given that the Soviet class system moves towards one of the two power loss attractors (panels B and C of Figure 8), whether working-class power falls or rises depends entirely on its initial position (i.e., on $z[0]$). With the parameters specified in equation 4 and equation 7, and with both political class power and administrative class power starting near the origin (i.e., the power reproduction boundary), then $z(0) = -20$ separates the working-class rise and fall regions. If $z(0) < -20$, then working-class power falls along with political class and administrative class power (assuming the latter approach a power loss attractor). If $z(0) > -20$, then working-class power is not dragged down by the collapse of the political class and administrative class powers.³⁵ The post-Soviet experience strongly suggests the former alternative rather than the latter.

Our analysis of working-class involvement in the dynamics of Soviet collapse has not included random elements. How, if at all, do random power perturbations alter the process? We study their effects through a procedure similar to that described in the previous section. Independent uniformly distributed random shocks ($\mu = 0$, $\sigma = 2 / \sqrt{3}$) are administered at staggered half-unit time intervals to each of the three classes. The August coup is represented as a ten-unit power loss to both the political and the administrative classes, but as having no effect on working-class power.³⁶ The initial positions for these perturbed dynamics are $x(0) = .1$, $y(0) = .1$, and $z(0) = -26$. Time series representations of three perturbed trajectories, one leading to each of the three attractors, appear in Figure 9. The graph on the right in each panel gives the time path of working-class power in greater detail since this is

often compressed when the three time series are charted together. Such separate representation also shows the difference between the general power loss situation (panel B) and power loss with working-class gain (panel C) more clearly.

With these parameter values and this method of random perturbation, one of the two power loss scenarios occurs on about 70% of the trials. The general power loss destination occurs over three times as often as the power loss with working-class gain destination, but this result is highly responsive to the assigned value for $z(0)$. More significant is the remarkable persistence of the political dominant attractor, which continues to occur even if we double the size of the power loss resulting from the August coup. Holding constant the magnitude of the power loss, the presence of the working class renders the political dominant attractor more persistent than it otherwise would be. Our analysis suggests that the collapse of the Soviet Union was by no means inevitable. In 100 trials of the perturbed three class model, almost every power loss trajectory occurred within a few time units of the power decrement resulting from the August coup. Whenever the Soviet class system survived the power plunge associated with the August coup, eventually it almost always approached the political dominant attractor. Indeed, our model suggests that had the Soviet system somehow muddled through the August coup, it might well have restabilized under political class hegemony.

When the dominance of the political class is firmly established, shocks that temporarily alter the power of either the administrative or the working class are quickly eroded to the power level designated by the political class. This rapid erosion appears in the time series of working-class power in panel A of Figure 9. By $t = 23$ the political class has achieved a position of commanding power. Although after that time shocks occur in undiminished magnitude to working-class power, the latter quickly returns to the $z = -30$ level, with departures becoming no more than vertical projections to this essentially horizontal trajectory.

The Rise of Capitalist Power

After the collapse of Soviet Communism and the disintegration of the Soviet Union, classes based upon capitalist property became dominant in virtually all the successor states. How did this come about? The origins of capitalist power occurred during the Soviet period. Although the model of class dynamics proposed herein is historically specific and pertains only to the second reform period in Soviet history, it should be able to account for the spectacular rise of capitalist class power at the very end of the Soviet era.

Soviet Communism did not collapse due to the rise of a capitalist class. The main thrust of historical causation goes in the opposite direction: the capitalist class gained power mainly because the dominant classes of Soviet society suffered catastrophic power loss. The vicissitudes in the powers of the political and administrative classes hardly affected the power of the fledgling capitalist class,

which remained very low until the point of collapse. The meteoric rise of capitalist power is simply the reverse side of the stunning collapse of the dominant Soviet classes. Had the Soviet system successfully reformed under political class hegemony, then neophyte capitalist class positions most probably would have disintegrated.³⁷ Class dynamics, bear in mind, concerns class positions and the power inherent within them. It does not concern, at least not directly, the actions of incumbents to those positions. The fact that capitalists in post-Communist societies are often former Soviet *nomenklatura* does not contradict the hypothesis of inverse power relations between these classes.

A capitalist class appeared in the Soviet Union only after the start of the second reform period during the 1986-88 interval.³⁸ Its birth was facilitated by three laws intended to stimulate economic activity: the Law on Individual Labor Activity (November 1986), the Law on State Enterprise (June 1987), and the Law on Co-operatives (May 1988). These policies opened a space for various forms of profit making activity within Soviet society. Nevertheless relations between the emergent capitalist class and the other important classes of Soviet society were structurally antagonistic.³⁹ The influence of the former upon that latter was extremely small, while the influence in the other direction — especially by the political and administrative classes upon the capitalist class — was considerable. The dynamic equations in equation 5 can be modified in the following way to accommodate the polarized relations with the capitalist class, whose power at time t is designated as $k(t)$:

$$\begin{aligned}\dot{x} &= a_1x - a_2y(x - \alpha) - a_3z - a_4k \\ \dot{y} &= -b_1y - b_2x(y + \beta) - b_3z - b_4k \\ \dot{z} &= c_1z - c_2x(z + \gamma) - c_3y(z - \gamma) - c_4k \\ \dot{k} &= d_1k - d_2x - d_3y - d_4z\end{aligned}\tag{8}$$

The parameter relationships specified in equations 6 continue to hold. In addition, we represent the asymmetric influence patterns discussed above with the following parameter inequalities:

$$\begin{aligned}d_2 &> a_4 > 0 \\ d_3 &> b_4 > 0 \\ d_4 &> c_4 > 0\end{aligned}\tag{9}$$

The parameter values given in equations 4 and 7 continue to hold. The values of the new parameters are chosen (1) to satisfy the inequalities above, (2) to avoid structural instability, (3) for appropriate equivalence with already chosen parameters, and (4) for simplicity.

$$\begin{aligned}a_4 &= b_4 = c_4 = .001 \\ d_1 &= d_4 = .01 \\ d_2 &= d_3 = .1\end{aligned}\tag{10}$$

As before, $t = 0$ is taken as the start of the second reform period of Soviet history, also known as the Gorbachev era, and $t = 15$ as the time of the August coup. With this time framework, $t = 10$ is set as the moment at which the Soviet capitalist class is born. Due to its recent origins and pariah status within Soviet society, the initial power of the Soviet capitalist class is well below that of the working class, and we set it at approximately -50 (i.e., $k(10) \sim -50$).⁴⁰

The introduction of a weak capitalist class leaves intact the three destinations towards which the Soviet class system could move, but it alters the meaning of these attractors and also the likelihood of approaching any particular one (assuming random perturbations). Due to the strong polarization between the capitalist class and both of the dominant classes within Soviet society, sustained decline in the power of the latter implies sharp growth in the power of the former (see B and C of Figure 10). As before, we interpret this outcome to mean collapse of the Soviet class system. Conversely, sustained growth in the power of the political class (which necessarily coincides with stabilization of administrative class power) implies a severe drop in capitalist class power, which we understand as at least a temporary stabilization of the Soviet system (see A of Figure 10).

Relations between the Soviet working class and the emergent capitalist class are more contingent. These relations are indeed antagonistic, but the structural antagonism between workers and capitalists (within the context of Soviet society) is much weaker than between capitalists and either the political or the administrative classes (compare d_4 in (10) with d_2 or d_3). The stronger opposition overcomes the weaker one. Working-class power can stabilize while capitalist power declines (see A of Figure 10), decline while capitalist power rises (B of Figure 10), or increase precipitously along with the latter (C of Figure 10).

The model we are using, bear in mind, only pertains to the second reform period of Soviet history. When the political and administrative classes disappear from the scene, the force enabling sustained power gains by both the working and capitalist classes evaporates, and one might anticipate inverse movements in the powers of these two classes. Analyzing this process would require a quite different model of class dynamics.

The importance of including the capitalist class within our analysis of Soviet collapse lies mainly in prefiguring the successor to the Soviet system. Within our four class model, all scenarios entailing sustained and irretrievable power loss by the political and administrative classes — and hence collapse of the Soviet system — also involve immense power gains by the formerly feeble capitalist class. A powerful class does not blandly evaporate from the arena of history. Our analysis implies that whatever system could emerge from the sudden demise of Soviet Communism would give an important role, perhaps a preeminent role, to the capitalist class. But even assuming the occurrence of a radical state socialist collapse, our model does not imply that a neoliberal version of capitalism with unconstrained markets and a thoroughly dominant capitalist class was the only

possible successor to the Soviet system. The existence of an outcome in which both capitalist and working classes experience sustained power gains (C in Figure 10) suggests that transformation of state socialism into a social democratic version of capitalism was not out of the question. A social democratic alternative, it seems, could have developed had the working class gained even slightly more power prior to the precipitous decline of the Soviet class system (Kotz & Weir 1997:225-58; Sassoon 1996:730-33).

What happens when random and deterministic shocks, representing exogenous forces and events, enter the four class model of Soviet class dynamics? With one exception, the power trajectories of the political, administrative, working, and capitalist classes are each perturbed as previously described, that is, through addition of independent random increments uniformly distributed over the $(-2, 2)$ power interval at .5 time intervals. Once again, the August coup imposes a ten-unit power loss upon both the political and administrative classes, but has no direct impact upon either the working or the capitalist class.⁴¹ The exception is that random shocks to different classes, even though independent in magnitude, are no longer staggered but occur at the same points in time.⁴²

The distribution of perturbed trajectories among the three possible outcomes (political class dominance, capitalist class dominance, joint capitalist and working-class dominance) is highly sensitive to the initial power positions of the four classes. For example, almost no joint capitalist class–working-class dominance outcomes happen if initial working-class power is below -30 .⁴³ Since power positions cannot be measured with any degree of precision, the specific distribution of outcomes is not particularly meaningful. Examples of four class perturbed trajectories leading to each of the three possible outcomes appear in Figure 11.

In addition to the general time series representation given on the left side of Figure 11, on the right appears a detail of the brief critical time interval during which a decisive break towards one of the three possible destinations happens.

The introduction of a capitalist class did have at least one unanticipated consequence for the perturbed trajectories. Even if the powers of the political and administrative classes rebounded after the coup of August 1991, movement towards the political dominant attractor was by no means assured. The capitalist class might still achieve power dominance. An example of this occurs in panel B of Figure 11 where the decisive break towards capitalist class dominance occurs during the $[24, 25]$ time interval, well after the power drop from the August coup at $t = 15$.

The real significance of the capitalist class for explaining the Soviet collapse is only partially captured by this class dynamics model. The model shows that whenever the political and administrative classes endure sustained power loss, the capitalist class experiences explosive power growth. Hence the decline of the dominant classes in Soviet society does not create a power vacuum, but a situation in which at least one class wields formidable power. This circumstance renders restoration of the status quo ante extremely unlikely. The durability of capitalist

class relations in the post-Soviet context, notwithstanding intense demographic, economic, and cultural trauma, testifies to the barriers against restoration.

Conclusions

Soviet society certainly encountered significant economic, political, and ideological problems during the second reform period. Yet it had survived far greater difficulties at previous times in its history. Indeed, many if not most societies have experienced deeper economic crises than faced by the USSR under Gorbachev without abandoning their political and economic systems. The Soviet economic, political, and ideological crisis was at least as much a consequence as a cause of the collapse.

The existing literature proposes four principal explanations for the amazing collapse of Soviet Communism: economic crisis (Åslund; Ellman & Kontorovich), loss of political legitimacy (Hough, Malia, Remnick), nationalist disintegration (Daniels; Suny 1993), and elite defection (Kagarlitsky; Kotz & Wier; Solnick). In contrast, class dynamics theory interprets the Soviet collapse by means of the inherent liabilities of the Soviet class system. More specifically, class dynamics theory explains the collapse through the existence of a bifurcated dominant class both parts of which were vulnerable to comprehensive and simultaneous power loss. Extreme power loss by the dominant classes of Soviet society was tantamount to system collapse. Such radical power decline was not a foregone conclusion at the start of the second reform period, but it was certainly a strong, if unrecognized, possibility.

The possibility of power loss emerged from two fundamental elements of the Soviet class system: (1) the dynamic relations of dependence and competition between the two dominant classes as these relations evolved from Soviet history and are summarized by the power reproduction equations above, and (2) the position of the dominant classes near the origin of the power space (i.e., the point of stationary power reproduction) at the start of the second reform period. This particular position came about in response to the uncertainties of power reproduction during a serious reform initiative occurring after a long spell of political inertia. The emergence of a capitalist class able to reap huge benefits from the decline of the political and administrative classes cut off the possibility of a state socialist restoration and still does.

The class dynamics interpretation of Soviet collapse does not discount the significance of other processes such as nationalism, economic decline, ideological disillusionment, and elite defection. It simply claims that these processes, however potent they may be, unfold within and operate through the principles of class dynamics. Without the intrinsic vulnerability to power loss, neither nationalism nor ideological disillusionment nor any other putative cause could have toppled the Soviet system. By the same token, collapse was not the only possible outcome

of class dynamics during the second reform period. A reformed incarnation of the Soviet state socialist system might have consolidated itself under the leadership of the political class. Indeed, our analysis suggests that, without the August coup, this would have been the most likely outcome.

Class dynamics is not a general theory of history. It is rather a theoretically based methodology for constructing historically specific explanations. The theoretical component of class dynamics derives from Analytical Marxism, and proposes struggles between classes over the reproduction of class power as a useful paradigm for historical explanation. The identity of the struggling classes, the principles of power struggle, the location of classes within the power space, and the set of possible outcomes are all historically contingent. The class dynamics approach embraces no historical teleology: the evolution of human society and its class system has no implicit destination. On the contrary, the thrust of class dynamics is to identify the vastly different outcomes possible within any specific historical context. It compels awareness of multiple possibilities: whatever happens in history is not the only thing that can happen.

The methodology of class dynamics is rooted in Marxist ideas of social reproduction and involves the theory of continuous time dynamic systems. Why this particular methodology? Because social reproduction is a continuous process, and changes in class power, although sometimes explosive, are not discontinuous. Because, within specific historical contexts, the rates at which the powers of classes change obey ascertainable principles. Because principles of change are usually simpler than the paths of change induced by these same principles. Because a formidable array of analytical results and numerical methods are available to develop continuous time dynamic system models. Because this methodology possesses both the unity required for theoretical coherence and the flexibility demanded by historical diversity.

Several aspects of class dynamics methodology are bound to be controversial. First, and perhaps foremost, is the use of class power as the fundamental theoretical variable. The very existence of classes is disputed by some, and many more will take issue with the attribution of power to class entities. We do not measure class power, yet analyze power dynamics as if it had been measured. Marxist theory asserts that class power is a meaningful, indeed an indispensable, concept which can, in principle, be measured. The word *power* is a staple of common discourse, even common discourse among sophisticated social scientists. Definite quantities of power are attributed to individuals, groups, organizations, states, cultural beliefs, and virtually any other entity capable of transmitting a social effect. Whatever its theoretical origins, the concept of class power could not be an affront to the practical culture of social science.

The specification of parameter values and the assignment of initial power positions to social classes, though not based upon systematic measurement or estimation procedures, is hardly arbitrary. It arises from careful study of the relevant

social history and thorough understanding of the mathematical models used, and it aspires towards a certain explanatory robustness. It avoids, whenever possible, unstable parameter values and boundary power positions for which a small change would generate a qualitatively different outcome. This explains the emphasis on structural stability in the discussion above. The advantages of this numerical audacity are manifold. It enables generation of specific class power trajectories suitable for graphical presentation, as we have done throughout this article. It circumvents elaborate analytical arguments incomprehensible to most readers and typically yielding only weak results. The purpose of numerical audacity is certainly not protecting our conception of Soviet collapse from empirical refutation. The specificity of outcomes renders refutation far more feasible.

The conceptualization of power is another controversial aspect of the class dynamics approach. This conceptualization reflects the Marxist emphasis upon reproduction, and rests upon the idea that class power is continuously and socially reproduced. The principal means by which class powers are reproduced are class powers themselves, and the reproduction process itself is a particularly crucial form of class struggle. The power origin, that is the zero level of power, is defined in terms of reproductive capacity. Above the zero power level, a class can reproduce and expand its own power and is said to be power autonomous. Below the zero power level, a class cannot reproduce its own power and, without other interventions, its power declines. A class with negative power is said to be power dependent. Negative power does not mean absence of power, or inability to realize class interests, or producing effects opposite those intended. It indicates a negative capacity to reproduce class power, and it measures the rate of self-generated power decline.

The practical justification for this rather counterintuitive interpretation of power is the leverage it provides in analyzing how the powers of classes change. By focusing upon the reproduction rather than the exercise of power and by measuring the concept in terms of reproductive capacity, we simplify the principles governing changes in class power, ease the task of modeling the complex class dynamics, and increase the range of outcomes that can be represented. The analysis of Soviet collapse presented above tries to illustrate and support these claims. With simple differential equations we are able to represent a complex power cycle characterized by a condition of final state sensitivity. This condition may be why the collapse is so often portrayed as both necessary and astounding.

A single case, even a case of enormous historical importance, cannot validate the class dynamics approach. Some will claim that class dynamics reasoning does not and cannot explain the demise of Soviet Communism. The reader must judge; the arguments above are the best I can currently make. However, class dynamics methodology has very broad applicability. I intend to present several further interpretations of historical change based upon this approach. I am bold enough to hope that these new studies, in combination with the explanation of Communist

breakdown given herein, will stimulate interest in class dynamics and breathe a new fire into Marxist class analysis.

The theory and method of class dynamics adumbrated herein derives from and hopefully contributes to the analytical Marxist perspective on social science. Three major themes occur within current analytical Marxist research: (1) constructing rigorous ethical foundations for social emancipation, (2) exploring practical ways of transcending capitalist social organization, and (3) theorizing social dynamics. The class dynamics approach obviously links with the third theme, but it may also prove relevant to the first two.

Notes

1. Although the term *centralized economic planning* is commonly used to describe decision making in the Soviet economy, it is not an appropriate label. Central economic authorities never exercised the kind of control over production implied by the concept of planning. Under Stalin, and even afterwards, typical economic activity involved storming various production targets in the fashion of a military campaign. Hierarchical administrative command would be a more apt name for Soviet economic decision making.
2. That the bureaucracy itself was ravaged by terror and that Stalin ruled through the secret police rather than the formal apparatus of the Communist party further validated this appearance.
3. Although rarely placed within a class context, the tensions between the political and administrative aspects of the reform process are clearly recognized by several students of Soviet collapse. For example, Jerry Hough (1997) writes: "Gorbachev's political calculations were flawed . . . he was thinking in political terms and neglecting the administrative implications of what he was doing. He seemed totally unaware of the political problems that would be created by administrative disorder" (273).
4. The classic Marxist texts on reproduction are chapter 23 in volume 1 of *Capital*, and chapters 20 and 21 in volume 2. Although these writings contain numerous insights about processes of social reproduction, the stress upon economic relationships often obscures the generality of the reproduction metaphor. Analysis of reproduction is the central theoretical device within Rosa Luxemburg's famous treatise, *The Accumulation of Capital*. Luxemburg treats reproduction as a vital aspect of civilization, and claims that barriers to endogenous reproduction constitute the principal contradiction of the capitalist system. Social reproduction is a key element within the structuralist Marxism of Althusser and Balibar. Balibar's seminal discussion of "The Reproduction of the Social Relations" makes three critical points: (1) there is a duality between the concepts of reproduction and totality such that reproduction is the dynamic or diachronic representation of totality, while totality is the synchronic form of reproduction; (2) reproduction transforms things, but retains social relations; (3) the relation between production and reproduction defines social structure (Althusser & Balibar 1970:265-72). More recently, the theoretical centrality of reproduction has been persuasively asserted by John Torrance in his incisive reconstruction of a Marxist sociology of ideas. Marxist theory, according to Torrance, explains what happens in any sphere of activity by how

the contents of that sphere are produced. Moreover, the possible forms of production within any social sphere are limited by the requirements of reproduction (a claim which Torrance calls the *reproduction thesis*) (Torrance 1995:70-88).

5. The meaning of the *power origin hypothesis* is most easily understood by considering how power reproduction would occur in the absence of interaction with other classes. Under these counterfactual circumstances, the hypothesis implies that if class power is located exactly at the stationary level, it remains fixed. Alternatively, if class power lies above the stationary level (i.e., the class is *power autonomous*), class power increases; if class power lies below the stationary level (i.e., the class is *power dependent*), it decreases.

6. Suppose class *A*, which is antagonistic to class *B*, uses its power to attack the power of *B*. If the power of *A* is above the stationary level then the effect of the attack will be to reduce the power of *B*. If the power of *A* is exactly at the stationary level, by the arguments given in the text, its attack will have zero impact on the power of *B*. If, finally, the power of *A* lies below the stationary level, then *A*'s attack upon *B* must actually increase the latter's class power. Any other result would contradict either the continuity or the monotonicity of the cause and effect relationship between attack and response.

7. A reviewer of this article asks how the linear class struggle would deal with class coalitions of the sort considered by Wright (2000). Perhaps the simplest approach would treat the rate at which the class power of a coalition member changes as a positive linear function of the power of each separate class included in the coalition. Such an approach does not imply that each coalition member makes the same per unit contribution to the power change.

8. In the introduction to their multivolume treatise on differential equations and dynamic systems Hubbard and West write: "The main point of Newton's work was realization that *the forces are simpler than the motions* [authors' italics]. . . . The philosophy of forces being simpler than motions is very general and when you wish to make a model of almost any real system, you will want to describe the forces, and derive the motions from them rather than describing the motions directly. . . . [L]argely as a result of experimentation with computers mathematicians have grown conscious that even simple forces can create motions that are extremely complex" (Hubbard & West 1991:6-8).

9. These could be conceptualized as different fractions of a single class. Simple dynamic models, however, do not distinguish between a class and a class fragment. Thus I usually refer to the political and administrative sectors of the Soviet bureaucracy as separate classes.

10. The character of an equilibrium is determined by the linearized version of the system at that point. This linearization is specified by the Jacobian matrix of the system evaluated at the equilibrium point. For the system defined by (2), both eigenvalues of the Jacobian matrix, evaluated at the origin, have positive real part whenever all parameters of the model are positive. This establishes that the origin is a repelling point.

11. The equilibrium point is cyclical whenever the Jacobian matrix of the system, evaluated at that equilibrium, has eigenvalues with nonzero imaginary parts. In a two-dimensional system like that defined by equations 2, this will happen if and only if $\tau^2 < 4\Delta$, where τ is the trace of the Jacobian matrix while Δ is its determinant. For the Jacobian matrix of

system 2, evaluated at the origin, $\tau = a_1 + b_1$ and $= a_1 b_1 + \alpha \beta a_2 b_2$. Inequality 3 follows directly.

12. Parameters α and $-\beta$ describe how classes act, not how they think. When the power of the political class lies above α , the administrative class acts to reduce it; when the power of the political class lies below α , the administrative class acts to increase it. Conversely, when the power of the administrative class lies above $-\beta$, the political class acts to decrease it; when administrative class power lies below $-\beta$, the political class acts to increase it. Parameters α and $-\beta$ could be characterized as switching points — points at which changes of action occur — pertaining to the political class and the administrative class respectively. The fact that α is positive while $-\beta$ is negative signifies that the switching point for the political class lies in the region of power autonomy, while the switching point for the administrative class lies in the region of power dependency. The latter condition means that the political class acts to keep the administrative class in a position where it cannot reproduce its own power.

13. A system is *structurally stable* if a small change in the values of its parameters generates only a small change in the system's trajectories. A more formal way of expressing the same idea is that the structure of the phase space after a small parameter change is topologically equivalent to its structure before the change.

14. The structural stability of (2) follows directly from two important theorems: one by the Soviet mathematicians Andronov and Pontryagin, the other due to the Brazilian topologist Mauricio Peixoto (Hubbard & West 1995:245-58). Determination of structural stability in dimensions greater than two proves far more difficult.

15. All graphs in this article have been prepared using the *MATHEMATICA* technical computing system developed by Wolfram Research, Inc. The standard reference on this system is Stephen Wolfram, *The MATHEMATICA Book* (1999).

16. I have worked with several other positive valued parameter sets satisfying inequality 3. As expected, the results obtained were topologically equivalent to those reported below.

17. According to CIA estimates, the growth of Soviet factor productivity, a crucial indicator of economic development, had been negative from 1971 onward (Directorate of Intelligence 1988:C3).

18. The economist James Millar writes that "no society in modern times has absorbed a blow of the severity of Operation Barbarossa [Hitler's assault upon the Soviet Union] and survived as a political, economic, and social entity" (quoted in Suny 1998:334).

19. The vector field gives the direction and magnitude of the rate of change at each point in the phase space of the dynamic system.

20. A saddle point is an unstable equilibrium point of the dynamic system such that in one direction trajectories approach this point while in another direction trajectories depart it.

21. A basin is associated with an attractor and consists of all points in the phase space from which trajectories approach a given attractor.

22. The concept of an attractor is sometimes restricted to bounded sets in the phase space that attract trajectories from all points in their neighborhood. This idea is easily extended, as done in this article, to limit sets located on the infinite boundary of the phase space.

23. The model has two unstable equilibria: a repelling point at the origin and a saddle at $(9.2, -11.2)$. The exceptions are the degenerate trajectories corresponding to these unstable equilibria as well as the isolated trajectories leading into the saddle.

24. The inset to the saddle point divides trajectories moving towards the political dominant attractor from those approaching the power loss attractor. Therefore this inset (or separatrix) must lie between the two trajectories given in the third diagram of Figure 3.

25. A fractal is an irregular set whose Hausdorff dimension is not an integer. A fractal also has the property of being self-similar under magnification. The boundary between the two attractors satisfies both of these conditions.

26. Leon Trotsky's powers of prophecy have become legendary, as may be seen in Isaac Deutscher's magnificent three volume biography: *The Prophet Armed, Trotsky: 1879–1921* (1954); *The Prophet Unarmed, Trotsky: 1921–1929* (1959); *The Prophet Outcast, Trotsky: 1929–1940* (1963). Yet even a person of Trotsky's perspicacity could not differentiate positions leading towards bilateral power loss from positions destined for political class dominance if the Soviet class system lay sufficiently near the power origin. Trotsky, notwithstanding his early and penetrating insights, forecast neither the emergence of a distinct political class within the Soviet bureaucracy nor the possibility of its durable power dominance.

27. Alternatively, the disturbances might be treated as parametric shocks changing the values of system parameters, or as both parametric and positional shocks. Parametric shocks surely occur, but the relationship between a historical event and a parametric change seems considerably more obscure than the connection between an event and a positional change. The immediate effects of parametric shocks are also more difficult to see than the immediate effects of positional shocks. The latter are discontinuities in system trajectories. The former are discontinuities in the time derivatives of system trajectories, but not in the trajectories themselves. In view of the exploratory nature of this modeling endeavor, it seemed advisable to use the simpler and more intuitively accessible interpretation of historical disturbances. It is also conceivable that exogenous shocks would change the structural form of class dynamics (i.e., the structure of the equations governing the system). However, this would shift the burden of explaining social transformations from analyzing the properties of a durable class dynamics system to accounting for changes in underlying structure of this system.

28. Random shocks were generated using the *Random* function of the *MATHEMATICA* technical computing system. This produces numbers uniformly distributed in the specified interval and, according to the documentation, “‘random enough’ for practical purposes.” The numbers, however, are not strictly random because they depend upon a particular mathematical algorithm and a particular numerical seed. The same seed generates the same sequence of random numbers. See *The MATHEMATICA Book*, Section 3.2.3 “Pseudorandom Numbers.”

29. The political rebound effect results from the nonlinearity of the dynamic system. With political class power sharply reduced (and actually negative), the power of the administrative class can increase very rapidly (at a polynomial rate). Then, with political class power negative and administrative class power positive, the former lies well below the level deemed appropriate for it by the latter. This establishes a polynomial (second degree) impetus for increasing political class power. When the latter becomes sufficiently large it reverses the growth of administrative class power.

30. The random aspects of this model result entirely from the random shocks affecting each class power variables independently every .5 time units. Our representation of the August coup is entirely deterministic, and without the random shocks the class dynamics scenario would remain fixed before, after, and during the coup.

31. A dynamic system is structurally stable if small changes in the values of its parameters do not change its qualitative properties. Unfortunately the classical theorems on structural stability do not hold in dimensions greater than two, making it far more difficult to determine whether a particular system is indeed structurally stable. I generally use numerical methods to investigate the stability properties of systems in three or more dimensions. Although numerical methods can be informative, they cannot establish the structural stability of a dynamic system.

32. Because the system represents three classes, full trajectories move through three dimensional phase space. The partial trajectories in Figure 7 are projections of the full trajectories onto a two dimensional phase space (political class power and administrative class power). Both the full and the partial trajectories are lines through space (because a single state is occupied at a single time) and thus one dimensional. Partial trajectories can intersect each other, while full trajectories cannot. The trajectories diagramed on the right side of Figure 8 are full trajectories.

33. In the phase space representation of Figure 8 (right side of each panel) the horizontal or x axis (left to right) indicates the power of the political class, the y axis (stretching towards and away from the observer) depicts the power of the administrative class, and the vertical or z axis gives the power of the working class. To simplify the presentation, axis labels are not included in the B panel of Figure 8.

34. Careful inspection is needed to detect the difference between these two situations and the attractors to which they correspond. This is because the trajectories involved approach infinity within a finite amount of time. This undermines numerical approximation of the trajectories as the infinite discontinuity (often called a *singularity*) approaches. Observe that the left tail of the trajectory in panel B of Figure 8 lies below $\gamma = -30$ in the vertical dimension (indicating working-class power), while in panel C it lies above this mark.

35. Our interest is in the qualitative aspects of Soviet class dynamics, and parameters are chosen merely to illustrate these features. Thus the value $z(0) = -20$ has no special meaning other than to exemplify a boundary between regions of working-class power loss and gain.

36. The August coup may have exerted a direct effect upon working-class power, but it remains unclear whether that direct effect, assuming it exists, would be positive or

negative. In view of such uncertainty, it seems advisable to exclude any direct effect upon the working class from our model.

37. Although the main direction of causation is surely from the collapse of political and administrative class power to the rise of capitalist power, the condition of final state sensitivity at the outset of the second reform period must also be recognized. This implies that even tiny changes in class power, such as those attributable to a weak capitalist class, could decisively alter the power destination of the system.

38. Some observers place the origins of the Soviet capitalist class much earlier than 1986. For example, Bettelheim (1975) suggests that bureaucratic control of state industry constitutes a special form of capitalist property, and that parts of the Soviet bureaucracy were an incipient capitalist class. However, if one defines capitalists as private owners of productive property that is used for the purpose of making profits appropriated by the property owner, then a Soviet capitalist class does not exist prior to the second reform period.

39. Marxist theory conceives class in relational terms. Within the Soviet system, the crucial class-defining relationships were those with the two bureaucratic classes. Thus the Soviet working class was defined by its exploitative relationship with the political and administrative classes. The fledgling capitalist class was also defined by its relationship with the political and the administrative classes. Only after the decline of state socialism could the exploitative relationship between the capitalist and working classes be of primary importance.

40. Numerical solution of a system of differential equations is far more difficult if initial values are specified at different time points. Hence we set $k(0) = -50$, which, given the equation system in equation 7 and the parameter values in equation 9, makes $k(10)$ slightly less than -50 .

41. The effect of the August coup upon the capitalist class, though apparently profound, is mediated through its impact upon the political and administrative classes.

42. With four classes and random shocks at .5 time intervals for each, a significant time lag between perturbations cannot occur. The smooth operation of the class system is constantly disrupted, and the only purpose of time staggering would be to prevent simultaneous shocks. Although coordinated perturbations can have distinctive effects upon a dynamic system, this rarely occurs for the model under investigation. Moreover, simultaneous shocks are consistent with the idea that the same exogenous forces events impact the powers of all classes.

43. Joint capitalist and working-class dominance does not imply the absence of antagonism between capitalists and workers, as may be seen from the last two equations in equation system 8. As indicated earlier, the worker-capitalist alliance arises from mutual hostilities towards the political and administrative classes of Soviet society. This alliance might have evolved into a social democratic variant of capitalism.

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APPENDIX A: Class Bifurcation As a Historical Process: 1917-85

Prerevolutionary Legacy

- Historical weakness of Russian society in relation to Russian state
- Rapid development of state bureaucracy which, in modified form, survives the revolution
- Weakness of the Russian bourgeoisie
- Emergence of state capitalism

Revolution and Civil War: 1917-21

- Division between Provisional government and soviets after February Revolution (first form of dual power)
- Growing independence of Council of People's Commissars (Sovnarkom) from its nominal superior, the Central Executive Committee of Soviets (VtsIK)
- Dualistic foreign policy directed at both foreign governments and masses of people in foreign countries
- Dual power in the countryside: soviets in larger towns and communes in villages
- Local soviets function as administrative organs and Bolsheviks dominate decision making within these soviets
- Communist party increasingly functions as a state within the state
- Creation of both Political Bureau (Politburo) and Organizational Bureau (Orgburo) within the Communist party gives structure to the political and administrative division
- Ban on factions within the Communist party emphasizes distinction between policy formation and implementation of decisions

New Economic Policy: 1921-28

- Loosening of economic control by the state and tightening of political control by the party
 - Division between peasant agriculture oriented towards market and modern industry under state control
 - Development of patronage system within the party becomes organizational basis of Stalin's power (he controls Orgburo) while deepening the political and administrative division
 - Juxtaposition of deep political conflict and limitation of real politics to narrow circle of party leadership
 - Great increase in size of Communist party. Many new members have working-class background, but very few have political influence within the party.
 - Increasing hierarchy within the international Communist movement: foreign Communist parties are subordinate to the Comintern which is dominated by the Soviet party.
 - Expansion of party administrative control into many areas of society including education, religion, science, and art
 - Continuing tension between utopian ideology and backward reality
-

APPENDIX A: Class Bifurcation As a Historical Process: 1917-85 (Continued)

Collectivizing, Industrializing, and Purging: 1928-41

- Hundreds of thousands of workers become engineers. They displace the older technical intelligentsia and become the foundation of the dominant classes within Soviet society.
- Collectivization of agriculture establishes stratified collective farms with a white collar decision making elite, field workers at the bottom, and blue collar machine operators in the middle strata.
- Stalinist economic planning featuring unrealistic and constantly changing goals, military type methods, and economic planners who respond to political demands
- Extreme hierarchy of the command economy centralizes all significant decision making at the very top thus emphasizing the distinction between political and administrative functions
- Rapid expansion of the Soviet working class along with increased power of managers over workers and increased mobility of workers into managerial positions
- Emergence of a privileged but insecure managerial class precariously located between party authorities and the working class
- Atmosphere of intense fear and pervasive mistrust based upon collectivization disasters, industrialization dislocations, rise of European fascism, and provocation by Stalin
- Expansion and centralization of police apparatus under Stalin's direct control. Secret police increasingly replace party as the principal instrument of dictatorial rule.
- A series of purges ravage political leadership, military leadership, administrative elite, intelligentsia, and even the secret police. Soviet archives record 681,692 people shot during 1937-38 (Getty and Naumov 1999:588)
- All opposition to Stalin's rule is eliminated. Old Bolshevik political and administrative elites are replaced by elites educated and promoted under the Soviet system.
- A culture of fear, lack of initiative, and unwillingness to take responsibility permeates the dominant classes of Soviet society. The distinction between policy formation and execution pervades practical activity.

World War Two: 1941-45

- The experience of total war centralizes power even more. Militarization of economy and society further differentiates command and execution, the functional basis of the political class-administrative class bifurcation.
 - Strengthening of status distinctions and hierarchical authority in the military prepares ground for acceptance of class dominance as distinct from political dictatorship with class privileges.
 - Death of millions of Communists and state officials requires rebuilding both party and state while creating numerous class position vacancies.
 - Collective effort and eventual victory deepens support for Soviet regime, weakens nationality divisions, and legitimates the emerging class system.
 - Abolition of Comintern and weakening support for class-based revolutions simultaneously erodes beliefs about a classless future for Soviet society.
 - Extensive participation of women in agriculture, industrial production, and the military increases the status of Soviet women, but also widens the status gap between the bureaucracy and the producing classes.
-

APPENDIX A: Class Bifurcation As a Historical Process: 1917-85 (Continued)

Reconstruction and Repression: 1945-53

- Urban labor force exceeds rural labor force for the first time in Soviet history. This urbanization coincides with expansion of the state and party bureaucracy.
- Party is increasingly composed of war veterans and white collar workers. War experience is an important source of party cohesion and regime legitimacy.
- Party increases its role in the economy and diminishes its political functions. Much decision making devolves upon the state apparatus.
- After a brief post-war respite, Stalinist autocracy is reconstructed. This includes comprehensive intimidation of both the political and the administrative bureaucracies.
- Systematic attack upon intellectual independence of artists and scholars reinforces ideological conformity and prevents emergence of autonomous elites. It also emphasizes distinction between political and ideological functions of the bureaucracy.
- Encouragement of a socially conservative, ideologically disinterested, and politically docile professional-managerial class.
- Stalinization of eastern Europe after 1948 further concentrates power and discourages political initiative of any form within the emerging Soviet bloc.

First Reform Period: 1953-64

- Party asserts control over secret police and abandons use of terror. This reduces fear within the bureaucracy and allows the administrative class in particular to flourish.
- Continuation of Communist party rule under collective leadership rather than individual dictatorship. Central Committee of party becomes the ultimate repository of power. This models a broader relationship in which the political class continues to dominate, but administrative class power increases..
- Reform efforts in the areas of agriculture, labor discipline, intellectual freedom, reduced Russification, and foreign policy decentralize control and strengthen the administrative class.
- Khrushchev's effort to support middle levels of party officials also increases administrative class power.
- Repressive reaction to upheavals within Soviet bloc (East Germany 1953, Poland 1956, Hungary 1956) and to domestic conflict (e.g., Novocherkassk 1962) inhibit deeper democratic reforms and further changes in class power.
- Space and arms race with the U.S. strengthens the position of the technical intelligentsia.
- Agricultural policy failures (e.g., Virgin Lands program), foreign policy humiliation (Cuban missile crisis), and threats to the power of the political class lead to fall of Khrushchev and slackening of reform initiative.

Stability and Stagnation: 1964-85

- Abandonment of reform effort: continuation of centralized command economy, tighter controls over cultural expression, perpetuation of party rule. Both sectors of the ruling class are ultimately weakened.
 - Entrenchment of state and party bureaucracy with lengthening tenure in office, slackening central control, inflexible domains of authority, and basic policy continuity. Entrenchment stabilizes both the political and administrative classes, confirms their functional and structural differentiation, but does not expand their power.
-

APPENDIX A: Class Bifurcation As a Historical Process: 1917-85 (Continued)

- Increasing economic stagnation characterized by declining productivity of capital, irrational prices, inventories of unsalable goods, and phlegmatic response to planning initiatives. Economic stagnation fosters policy inertia and weakens the political class in particular.
 - Growing influence of the military and defense industry complex resulting in arms buildup, continued concentration on heavy industry, and strengthening of sectors of the administrative class
 - Crushing of liberal reforms in Czechoslovakia signals growing conservatism and crackdown upon intelligentsia. Cultural conservatism and opposition to social change gradually undermine the foundations of bureaucratic power.
 - Pessimism about future and cynicism towards Communist ideology spread among professionals and middle strata of Soviet society. Political and administrative classes are increasingly isolated from the rest of society.
 - Increase in world oil and gold prices expands foreign exchange available to Soviet Union enabling increasing consumption, but masking pressing needs for economic and political reform as well as growing vulnerability of the ruling classes.
 - Wage equality advances across Soviet class structure, but labor productivity remains relatively low and bureaucratic privileges increase.
 - Social stagnation evident in high alcohol consumption, frequent job changes, declining class mobility, and declining life expectancy.
-

APPENDIX B: A Chronology of Some Important Perturbations during the
Second Reform Period

1985

- March Konstantin Chernenko dies and is succeeded by Mikhail Gorbachev as general secretary of the Communist Party of the Soviet Union (CPSU).
May Start of vigorous campaign against the use of alcohol
Nov. Meeting between Gorbachev and Reagan in Geneva

1986

- Jan. Collapse of world oil prices compels Soviet Union to borrow money abroad.
April Disastrous accident at the Chernobyl nuclear power station in Ukraine
June Reduction in the power of censors office
Oct. Meeting of Gorbachev and Reagan in Reykjavik, Iceland
Dec. Riots in Alma Ata, Kazakhstan, protesting appointment of Russian party chief (28 people killed)
Release of Andrei Sakharov from exile in Gorky (promise to free all other political prisoners)

1987

- Jan. Plenary session of Central Committee places political reform on the agenda.
June Central Committee asserts need for significant economic reform.
Law on State Enterprise gives enterprise management greater financial independence from ministries.
July National convention of informal political groups in Moscow
With less central control, wages tend to increase much faster than productivity.
Nov. Demotion of Yeltsin after he criticizes party leadership
Gorbachev praises Bukharin beginning serious reappraisal of Soviet history.

1988

- Feb. Bloody conflict between Armenians and Azerbaijanis over Nagorno-Karabakh
March Publication of neo-Stalinist manifesto written by chemistry teacher Nina Andreeva
April Agreement ending Soviet intervention in Afghanistan
Wave of strikes in Poland against inflation
May Soviet press begins publishing unorthodox political ideas.
June Nineteenth CPSU Conference marks beginning of real movement towards democratization (extensive television coverage)
Gorbachev calls for multicandidate elections to Supreme Soviet.
-

APPENDIX B: A Chronology of Some Important Perturbations during the Second Reform Period (Continued)

- July Formation of non-Communist popular front in Estonia
- Sept. Reorganization of Central Committee abolishing industrial departments and Secretariat
- Nov. Supreme Soviet of Estonia declares sovereignty.
- Dec. Devastating earthquake in Armenia (25,000 killed)
 Unilateral reduction of 500,000 Soviet troops
 Competitive legislative elections are mandated in the USSR.
 Gorbachev says Eastern European countries are free to choose their own political and economic paths.

1989

- Feb. First competitive election campaigns in the Soviet Union in over sixty years
- March Election for Congress of People's Deputies
 CPSU suffers some electoral defeats. Yeltsin elected from Moscow district with 90% of vote.
- April Violent suppression of demonstration in Tbilisi, Georgia
- May Congress of People's Deputies convenes with continuous TV coverage and participation by dissident delegates.
 Lithuania declares sovereignty.
- June Suppression of Tiananmen Square demonstration in China
 Huge pro-democracy demonstration in Hungary
- July Strike of coal miners in Ukraine and Siberia (first widespread strike since 1920s)
- Aug. Non-Communist government comes to power in Poland.
- Sept. Supreme Soviet recognizes workers' right to strike.
- Nov. Destruction of Berlin Wall
- Dec. Execution of Rumanian leader Ceaucescu and wife
 Vaclav Havel elected president of Czechoslovakia
 Emphatic rejection of Communism in Eastern Europe weakens belief in Communist ideology.
 Gorbachev threatens to resign as head of CPSU.

1990

- Jan. Soviet troops quell riots in Azerbaijan
 End of special trading relationship between Soviet Union and Eastern Europe
 - Feb. New CPSU program calling for market economy and individual ownership of means of production
 Elimination of constitutional clause requiring Communist party leadership of the Soviet state
 Gorbachev agrees to renegotiate treaty unifying Soviet republics (Union Treaty).
 - March Congress of People's Deputies elects Gorbachev president of USSR (but Gorbachev declines a popular election, which is seen by some as a "fatal mistake").
 Elections to first Congress of Russian republic return a pro-Yeltsin plurality.
 Authority of local CPSU units over local government institutions ended.
-

APPENDIX B: A Chronology of Some Important Perturbations during the
Second Reform Period (Continued)

- April Autonomous republics made equal to union republics
Oil supplies to Lithuania are cut off to reestablish central authority.
- May Yeltsin elected chair of Russian republic Supreme Soviet
Unpopular increase in the price of bread
Russian republic declares its laws have priority over those of the Soviet Union.
- July Gorbachev gives limited support to 500-Day Plan of economic reform which would
deprive Soviet government of taxation power (among other things).
Gorbachev's top political advisors taken off Politburo of CPSU
- August Abolition of censors office
- Sept. President of USSR is given emergency powers.
Gorbachev decides not to prevent Russian republic from establishing independent financial system.
- Oct. Gorbachev wins Nobel Peace Prize.
Many wholesale prices are freed from central control, but conflict between central ministries and local managers hinders production.
- Nov. Gorbachev rejects 500-Day Plan causing breach with some of his closest advisors.
Key government positions are filled with conservatives.
- Dec. Liberal foreign minister Shevardnadze resigns warning about danger of dictatorship.
Widespread fear of a conservative coup d'état (fear continues for several months)
- 1991
- Jan. Moderate prime minister Ryzhkov is replaced.
Soviet troops fire upon crowds in Latvia and Lithuania.
- Feb. Lithuania votes overwhelmingly for independence.
- March In referendum on future structure of USSR, 76% support union (Armenia, Georgia, Moldavia, Estonia, Latvia, and Lithuania did not participate).
- April Congress of Russian republic establishes a Russian presidency.
- June Yeltsin elected president of Russian republic.
- July To gain acceptance of a Union Treaty, Gorbachev makes major taxing and budgeting concessions to the republics.
- August Russian republic seizes control of major oil producing and manufacturing facilities.
Attempted coup d'état led by conservative Communists appointed to office by Gorbachev.
Coup and its failure discredits Communist party ideology and organization.
Yeltsin dissolves the Communist party in Russia
- Sept. Congress of People's Deputies, highest legislative body of the USSR, is dissolved.
Yeltsin gains veto power over ministerial level appointments to the Soviet government.
Industrial ministries are replaced by holding companies and banks, and these are subordinated to the government of the Russian republic.
- Oct. Russia assumes control of imports and exports as well as of money supply.
Yeltsin is given emergency power for one year, including right to appoint regional governors.
-

**APPENDIX B: A Chronology of Some Important Perturbations during the
Second Reform Period (Continued)**

- Nov. New Russian government formed with advocates of Russian independence and economic shock therapy in key positions.
 Civil war breaks out in Georgia and Tajikistan.
 Yeltsin cuts off financing of central ministries.
- Dec. Ukraine referendum overwhelmingly supports independence.
 Presidents of Russia, Ukraine, and Belorussia sign an agreement dissolving the USSR.
 Russia occupies Soviet seat at the United Nations.
 Gorbachev resigns as president of the Soviet Union.
-

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Employees' Use of Work-Family Policies and the Workplace Social Context*

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Abstract

This article analyzes the effects of workplace social context on managers' and professionals' use of work-family policies in a financial services corporation. These official policies are ambiguous and contested and, as institutional theory implies, may fail to become fully implemented. We use a multilevel model to determine the individual-level and work group-level factors that affect respondents' policy use. In addition to individual-level factors, the social context of the work group affects employees' decisions to use work-family policies. We find support for our hypotheses stressing the social resource of power and protection: employees are more likely to use these policies if they work with powerful supervisors and colleagues, who can buffer them from perceived negative effects on their careers.

Sociologists have long recognized that groups within organizations influence their members' behaviors and beliefs and that these influences can mediate the impact of organizational-level initiatives or run counter to those desired by organizational leaders (Blau & Scott 1962; Roethlisberger & Dickson 1939). Despite this history, sociologists of work and organization often overlook "the behavior of flesh-and-blood workers at the level of the face-to-face work group" (Simpson 1989:564).¹ However, attention to the social relational features of work and organizations has

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increased in recent years, as many scholars have adopted approaches consistent with a "social model of behavior" (Pfeffer 1997; see also Baron & Pfeffer 1994). These approaches emphasize social context and relations as causal explanations for behavior, in contrast to explanations that focus on the preferences and characteristics of atomized individuals (Granovetter 1985; Pfeffer 1997; Wharton, Rotolo & Bird 2000).

This article uses a social relational approach to address issues central to institutional perspectives on organizations. Institutional research has been especially useful for explaining organizational responses to the external environment (Pfeffer 1997). For example, it has shown how a desire for external legitimacy can lead organizations to adopt some policies primarily for their symbolic value (Meyer & Rowan 1977). These policies often remain decoupled from the actual workings of the organization and fail to produce any real substantive changes in organizational structure or behavior (e.g., Edelman, Uggen & Erlanger 1999; Westphal & Zajac 1994). Because their primary goal has been to explain organizational-level behavior, however, institutional researchers have devoted little attention to how social contexts inside the organization shape the fate of policies after adoption.

In contrast, this article studies how the *intraorganizational* social context shapes employees' responses to organizational policies. It explores the fate of one set of work-family policies adopted by a large, global financial services company we call International Finance. Our research is premised on the institutional insight that some policies may fail to become fully implemented. Yet we go further to examine how particular aspects of the workplace context encourage or discourage employees' use of work-family policies.

The data come from our own survey of managerial and professional workers at International Finance, supplemented by a confidential personnel database from the company and by our qualitative interviews of key informants. Our unit of analysis is the employee, nested within a work group within one large company. As Blau and Scott (1962) argue, "Work groups should not be studied in isolation but in the context of the larger organization of which they are a part" (111). We expect that policy use will vary across individuals and work groups. Understanding the sources of this variation will help us begin to understand how work-family policies diffuse within organizations and do or do not become institutionalized as organizational practices.

Work-family policies and their use by professionals and managers are particularly appropriate foci for this research. Work-family policies are controversial and are not well-established organizational practices (Lobel 1999; Osterman 1995), probably especially so in large, decentralized companies like International Finance. Hence, these policies may be particularly susceptible to having symbolic effects on organizations (Westphal & Zajac 1994). We strategically chose a sample of professional and managerial employees because work-family policy use may be particularly contested and ambiguous for this occupational group.

Managerial and professional workers are more likely than other workers to have access to work-family policies and to take advantage of them (Glass & Estes 1997; Glass & Fujimoto 1995; Jacobs & Gerson 1997). Moreover, they may have more power than lower-status workers to promote change in organizational culture by embracing these policies. At the same time, working hours for managers and professionals in the U.S. have increased in recent years, and a large minority now work fifty hours a week or more in addition to commuting time (Jacobs & Gerson 1997). The financial services industry demands particularly long hours, as it faces competitive pressures from globalization, consolidation, and new technologies (Blair-Loy 1997). Because productivity is often difficult to measure, hours spent at work may be used as a proxy for managers' and professionals' work output. In addition, managers and professionals are expected to demonstrate commitment by working long hours and making work the central focus of their lives (Blair-Loy 2001; Fried 1998; Kanter 1977; Schor 1991). These demands place managers and professionals in a crucible of work-family conflict. Their long days may make work-family policies seem indispensable, but the demands of organizational commitment might discourage them from using these policies.

Theoretical Perspectives and Hypotheses

Large employers face considerable pressure to respond to employees' work-family concerns (Goodstein 1994; Ingram & Simons 1995; Osterman 1995), and this pressure may be especially great today, when competition for qualified workers is keen. A growing number of companies (including International Finance) have responded by providing employees with an array of work-family benefits, such as flexibility policies or child-care services (Mitchell 1997). Employers who provide these benefits often gain favorable press and a reputation as a desirable employer. Researchers, too, have generally regarded employers' provision of work-family policies as an indicator of their responsiveness to employees' work-family concerns (Glass & Estes 1997; Glass & Fujimoto 1995; Goodstein 1994; Milliken, Dutton & Beyer 1990; Osterman 1995).

Institutional researchers have studied how and why employers decide to provide work-family benefits to their employees (Goodstein 1994; Guthrie & Roth 1999b; Ingram & Simons 1995; Kelly 1999; Kelly & Dobbin 1999). This research has yielded important insights but has not told us much about workers' use of work-family benefits once they have been officially adopted by a company. Nor has the work-family literature fully examined this issue. As Lambert (1998) notes: "Assessments of preferences for certain programs and policies are rarely followed by assessments of actual use. This is especially true in the work and family field, in which few data exist as to who actually uses available benefits" (297).

As institutional theory reminds us, however, policies may be adopted for symbolic rather than substantive reasons and thus fail to produce any real changes in organizational structure or behavior (Edelman, Uggen & Erlanger 1999; Meyer & Rowan 1977; Scott 1995). For example, Westphal and Zajac (1994) found that many companies adopted long-term incentive plans for CEOs to gain legitimacy with stockholders but failed to use them at all or used them in only limited ways. Similarly, companies who provide work-family benefits may gain external legitimacy as desirable employers but may also intentionally or unintentionally discourage employees from ever using these benefits.

Westphal and Zajac (1994) suggest that "controversial or ambiguous" policies are especially likely to have merely symbolic effects on organizations. Unlike many other employee benefits and policies, work-family policies fall into the "controversial or ambiguous" category. Compared to employment practices such as sick leave or health insurance, work-family benefits are in the early and not yet taken-for-granted stages of adoption (Osterman 1995). Although it has become legitimate for employers to *offer* work-family policies, these policies are not yet embedded within other corporate structures, and it is not self-evident that good employees will actually use them (Kelly 1999). Further, although employers may view these policies as tools for recruiting and retaining employees, they often conflict with more entrenched organizational norms, such as an "overtime culture" (Fried 1998), "work devotion" (Blair-Loy 2001), and a belief in the value of "face time" (Perlow 1997). Thus, employees may conclude that using work-family benefits will be costly for their careers.

Professionals and managers at International Finance receive ambiguous and contradictory messages about using these policies. For example, International Finance offers a generous array of official work-family policies and has been listed in the business press as among the most family-friendly companies in the U.S. Among the company's official publicized values are "Respect & Balance: We treat people fairly and with dignity and keep a healthy perspective about life and work. . . . [We] encourage balance by showing flexibility in how, when and where work gets done." Nevertheless, as we will see, the company expects high levels of dedication and long work hours from its managerial and professional employees, and many employees are worried that using work-family policies will hurt their careers.

When organizational policies are controversial or ambiguous, *intraorganizational* interests and politics may shape policy outcomes. Whether contested policies are actually used thus may depend upon the political power of interested actors, "core constituencies," trying to encourage or discourage their institutionalization (DiMaggio 1988; see also Westphal & Zajac 1994). This implies that meanings and expectations surrounding policy use may vary widely across the organization and be constructed locally by supervisors and work groups.

HYPOTHESES

Institutional researchers such as Edelman, Uggen, and Erlanger (1999) and Westphal and Zajac (1994) treat policy use and implementation as organizational decisions. In contrast, we are studying *individuals'* use of work-family policies (see also the argument in Guthrie & Roth 1999a for extending institutional theory to the study of individual outcomes in organizations). We expect that the probability of an employee using work-family policies depends upon individual-level and work group-level factors.

Research suggests that the successful institutionalization of contested policies generally depends upon the political action and relative power of "core constituencies," interested actors who stand to gain from whether or not a policy is fully implemented (DiMaggio 1988). Similarly, researchers studying corporate adoption of work-family policies and programs argue that "critical constituents" can exert considerable influence on employers (Goodstein 1994; see also Ingram & Simons 1995; Osterman 1995; Powell 1999). In these studies, the critical constituents for work-family benefits are mothers (and sometimes fathers) with family responsibilities, especially those without a homemaking spouse.

Implicit in this argument is the belief that people with family responsibilities most need and desire alternative work arrangements. Women are likely to be critical constituents because they generally shoulder more responsibility for domestic work than men in addition to their market work (Spain & Bianchi 1996). Previous research has found that, on average, women are more likely than men to use various policies and parents of young children are more likely to use them than nonparents (Flack & Reskin 1998; Fried 1998; Jacobs & Gerson 1997; Sandberg 1999; Thompson, Beauvais & Lyness 1999). This research leads us to posit that the use of work-family policies depends partly on workers' individual characteristics, particularly their gender and family circumstances. Specifically, we expect that individuals with more family responsibilities will be more likely to use these policies. This leads us to hypothesis 1.

Hypothesis 1: Women will be more likely than men to use work-family policies. Net of other factors, we expect that married and cohabiting employees will be more likely than single ones to use work-family policies. We further hypothesize that parents of young or school-age children will be more likely than other employees to use them. We also expect that the probability of policy use will be higher for single parents, for workers without a homemaking spouse, and for respondents who provide care for someone elderly, ill, or disabled.

However, individual preferences alone are insufficient in understanding employees' behavior. Behavior is embedded within a social context, which not only shapes preferences and perceptions directly but also may shape people's willingness and capacity to act on them (Pfeffer 1997; Salancik & Pfeffer 1978).² Pfeffer (1982) argues that "for most people working in organizations, the most potent and relevant

contextual effect is that of the group with which they work" (103). Consistent with this view, our research defines the "social context" of work in terms of an employee's work group.

Work group social context is a multifaceted phenomenon. The demographic composition of work groups is the feature of social context emphasized here. A large literature documents the effects of demographic composition on work attitudes and behavior (e.g., Levine & Moreland 1990; Pfeffer 1983; Tsui & Gutek 1999). We view the demographic composition of work groups as a source of opportunities and constraints on people's willingness and ability to use work-life policies (Mowday & Sutton 1993). Hence, we expect that work group demographic composition will affect employees' policy use, net of the effects of employees' individual characteristics.

Consistent with social network approaches that treat ties to others as important social resources that can be used to achieve particular goals (Lin 1999; Portes 1998), we view various aspects of work group demographic composition as resources that can facilitate employees' use of work-life policies. The social resources derived from work group demographic composition may be activated in many types of situations. However, these resources — and thus the importance of work group demography — should be especially powerful in explaining employees' use of policies that are not fully institutionalized within the larger organization. As previous studies show, social influence of all kinds is more likely when the circumstances are ambiguous (Rice & Aydin 1991), as is likely true of work-family policies.

Which demographic features of work groups do we expect to matter and why? We present two sets of competing hypotheses. Each specifies a different set of demographic characteristics and a different kind of social resource that may enable use of work-life policies.

The first set of hypotheses posits that work groups are more supportive of their members' use of work-life policies when the group contains members who need and want to use these policies. Having coworkers with families may help create norms that support taking advantage of work-life policies and encourage greater policy use. Hence, coworkers should be more supportive of employees' use of work-family policies if they have personally experienced the challenges of balancing work with primary responsibilities for family care. Specifically, work groups containing higher percentages of critical constituencies should be more likely than other groups to encourage their members' use of work-life policies. This leads us to hypothesis 2a.

Hypothesis 2a: Members of work groups with higher concentrations of women, married people, and parents will be more likely to use work-family policies than other employees, net of individual factors.

If the fate of contested policies depends not just on the *presence* of interested actors but also on their *authority* to act on their interests (DiMaggio 1988; Westphal & Zajac 1994), the characteristics of supervisors should also shape workers' policy

use. Indeed, previous research indicates that supervisors' support of work-family policies affects whether employees actually use them (Flack & Reskin 1998; Fried 1998; Glass & Estes 1997). Supervisors who themselves juggle family responsibilities may be more likely than other supervisors to be critical constituents who promote these policies and facilitate their use by subordinates. This suggests hypothesis 2b.

Hypothesis 2b: Employees with female or married supervisors will be more likely to use work-family policies than employees with male or unmarried supervisors, net of individual factors.

Social support from people who themselves need or want to use work-life policies is the primary social resource supplied by work groups in hypotheses 2a and 2b. However, International Finance sends contradictory messages about work-family policy use, and, as we will see, many employees fear the career costs of using them (see also Fried 1998; Hays 1998). Because work-life policy use is contested, power and protection from negative consequences may be more useful social resources than social support. People may be reluctant to take advantage of these policies unless they are surrounded by powerful coworkers or supervisors who can facilitate this risky practice or protect them from perceived negative consequences.

Being immersed in a more powerful work group may provide employees with social resources for knowing how to successfully use work-family policies or may inoculate them against career costs of using these policies. Similarly, policy use may depend less on whether one's supervisor has family responsibilities than on whether the supervisor has the power or resources to protect one from perceived career costs. Though work group and supervisor power can be measured in many different ways, we rely here on three objective indicators of power: gender, tenure, and salary.

Men generally enjoy more power in the workplace than women owing to a variety of well-documented mechanisms (e.g., Kanter 1977; Maume 1999; Reskin & McBrier 2000; Reskin & Ross 1995; Tomaskovic-Devey 1993). In particular, studies suggest that women in organizations have more difficulty than men forming ties with others who are influential and instrumentally useful (Brass 1985; Ibarra 1993; Ibarra & Smith-Lovin 1997). Similarly, research shows that groups containing higher proportions of men command more resources and prestige and exercise more power and influence than those containing larger numbers of women (Reskin, McBrier & Kmec 1999). This literature implies that work groups having male supervisors and containing a higher proportion of men are more powerful work groups.

Two other indicators of work group and supervisor power are organizational tenure and salary. Workers with more seniority are likely to have developed more extensive networks (cf. Davies-Netzley 1998) and to be more socially involved with coworkers than those with less organizational tenure. Workers with longer tenure may also have greater access to more desirable jobs and work assignments and to positions involving more autonomy and discretion (Mowday, Porter & Steers 1982).

Within organizations, more powerful individuals and groups generally receive more of the organization's resources, including a higher salary (cf. Mowday 1978; Pfeffer 1997; Reskin & Ross 1995). This research suggests that work groups with higher mean salaries and longer average tenures are more powerful. Similarly, supervisors with longer organizational tenure are assumed to be more powerful than those having less tenure with the firm.

The research literature thus gives rise to the following hypotheses:

Hypothesis 3a: Members of work groups with a higher percentage of men, longer average organizational tenure, or higher average salaries will be more likely to use work-family policies than other employees, net of individual factors.

Hypothesis 3b: Employees with male supervisors or supervisors with longer average organizational tenure will be more likely to use work-family policies than other employees, net of individual factors.

In sum, the above hypotheses offer alternative ways in which the demographic composition of work groups may shape employees' use of work-life policies. Coworkers and supervisors may provide social support for policy use, or they may encourage use through their ability to protect users from perceived negative consequences.

Data and Methods

DATA

In 1998, International Finance gave us permission to study work-family policies in its organization and provided us with a confidential personnel database, from which we constructed variables measuring supervisor characteristics and aggregate characteristics of work groups. We constructed another data set based on our own survey of managerial and professional employees' characteristics and their use of and attitudes toward work-family policies at International Finance.

In 1999, after first pretesting our survey at another organization, we administered it in three divisions at International Finance.³ One division in the sample provides professional staff services to the organization, and the other two serve customers in core line functions. We sent the U.S. survey analyzed here to all U.S.-based managerial and professional employees of two of these divisions and to a subset of the third division.⁴ Because we are interested in the social context of work, we kept track of work group membership and surveyed all work group members, including the supervisor. The number of employees in these work groups ranges from 2 to 73, with a median of 13. Each work group works on a common portion of business and shares one supervisor.

The total number of usable surveys completed was 519, 52% of our original survey population.⁵ These 519 professionals and managers are nested within 78

work groups. Because of missing data, the present analysis includes 459 professionals and managers nested within 76 work groups. Our individual-level variables are derived from the 459 survey responses, but our aggregate work group variables are constructed from the personnel database provided by the company, which had information on over 90% of our original survey population.⁶

We did extensive tests for selection bias. First, we compared several demographic features of the employees who received the questionnaire with those of our survey respondents. Our information on survey recipients is from the company's personnel database. Two-sample *t*-tests revealed no statistically significant differences between this population and our respondents for the individual-level variables of gender, organizational tenure, and age, nor for the work group-level variables of supervisor gender, work group size, and percentage of women in the work group. The only statistically significant difference between survey recipients and respondents is a slight overrepresentation of whites among the latter group (69% of survey recipients identified themselves as white, as compared to 74% of survey respondents).

We also conducted additional tests for sample selection bias at the work group level. We used OLS to compute the predicted rate of nonresponse for each work group as a function of work group characteristics, including log size, percentage female, mean tenure, and so on.⁷ Using procedures developed by Berk (1983), we then included these predicted probabilities in our models as a work group-level variable. The selection variable was not statistically significant in our models, nor did its inclusion affect any of the other coefficients. Following previous researchers (e.g., Podolny & Baron 1997), we do not include the selection variable in our final analyses.

The survey includes a wide range of closed-ended items on respondents' attitudes and behaviors regarding balancing work and their other responsibilities. Approximately one-quarter of respondents answered an optional, completely open-ended question that asked them to write in any additional comments about the issues raised in the questionnaire. We do not know how widely these responses were shared across the rest of the sample, so we use them only for illustrative purposes.

We also conducted semistructured interviews with thirteen key informants at International Finance. These informants included seven human resources managers. One was responsible for implementing International Finance's family-responsive policies, and another was in charge of conveying International Finance's official set of values, including a professed concern for employees' work-family balance. Four interviews were with managerial and professional employees in the divisions surveyed. Two interviews were with line managers in other divisions who had conducted an internal survey for International Finance on employees' attitudes toward work-family issues.

METHODS

Because our data consist of individuals nested within work groups, we used HLM4.0 to estimate a two-level multilevel model (Bryk & Raudenbush 1992; Bryk, Raudenbush & Congdon 1996; see also DiPrete & Forristal 1994). Multilevel models are useful when data are arranged hierarchically (e.g., workers within work groups). These models are superior to traditional OLS models, which require the assumption of independence between observations, and they are superior to group-level models, which typically have low power to detect effects (Bryk & Raudenbush 1992). In particular, multilevel models make it possible to model the social dependence that exists between members of the same social unit.

Our two-level model differentiates between individual-level data and data collected at the work group level. Separate regression models are estimated for each level, and these submodels specify how variables at one level affect relations occurring at another. Multilevel analyses can take many forms; we use a nonlinear random-intercept model. As described below, our dependent variables — employees' uses of family-responsive policies — are binary. Hence, our models estimate the log-odds of using a particular policy as a function of individual and work group characteristics.

At level 1 (individuals), the models we estimate take the form

$$\eta_{ij} = \beta_{0j} + \beta_{qj}\chi_{qij} + r_{ij},$$

where η_{ij} is the log-odds of using a policy for individual i in work group j , β_{0j} is the intercept for work group j , β_{qj} ($q = 1, 2, \dots, Q$) are level-1 coefficients, χ_{qij} is level-1 predictor q for case i in work group j , and r_{ij} is the level-1 random effect. All individual-level variables are grand mean centered; hence, the intercept represents the adjusted average log-odds of policy use for work group j , after controlling for all covariates.

Each level-1 coefficient, including the intercept, is an outcome variable at level 2 (work groups). Except for the intercept, however, we model all level-1 coefficients as fixed effects (i.e., $\beta_{qj} = \gamma_{q0}$).⁸ The intercept is modeled as

$$\beta_{0j} = \gamma_{00} + \gamma_{01}W_{1j} + \gamma_{02}W_{2j} \dots + \mu_{qj},$$

where γ_{00} represents the average log-odds of using a policy; γ_{01}, γ_{02} , and so on are level-2 coefficients; W_{1j}, W_{2j} , and so on are level-2 predictors; and μ_{qj} is a level-2 random effect. Hence, we use work group-level variables to explain variation in the average log-odds of policy use across work groups. The intercept for any given work group is a function of the average log-odds of using a policy, several work group-level covariates, and a random error term.

We supplement these quantitative models with responses to the open-ended questionnaire item and with our interviews with nine key informants.

DEPENDENT VARIABLES

All our respondents have official access to a uniform menu of policies at International Finance. We used employee handbooks, official brochures on work-family policies, and interviews with human resources personnel to determine the eight primary work-family policies officially available to managers and professionals at this company.⁹

Forty-one percent of the sample was currently using or had used at least one of the work-family policies we asked about. Through factor analysis of employee use patterns, we found that these policies could be grouped into three main categories.¹⁰

(1) Family-care policies

- Child-care or elder-care referral services or educational materials
- Dependent sick time: Employees use own paid sick time to care for a dependent
- Paid or unpaid leave lasting more than two weeks to care for a dependent

(2) Flexibility policies

- Flextime: Employees determine the hours at which they stop and start working
- Flexplace/telecommuting: Employees work part of the time away from the office
- Compressed workweek: Employees work a full-time schedule in fewer than five days

(3) Policies on cutting back paid work hours

- Job sharing: Two employees share the responsibility of one full-time job
- Part-time: Employees are allowed to shift to part-time work

There is little overlap in the employees who use these three types of policies.¹¹

Twenty-one percent of our respondents were currently using or had used family-care policies, while 26% were currently using or had used policies enabling flexibility. Only 2% of respondents, however, have ever used job sharing or voluntary part-time policies, and two-thirds or more of the sample reported having no need or interest in policies to cut back on paid hours. Because of the small numbers of respondents who have used the policies on cutting back hours, we do not examine these policies in this article. Instead, we created two binary dependent variables: use family-care policies (1 = use) and use flexibility policies (1 = use) (see Table 1).¹²

MAJOR INDEPENDENT VARIABLES AT THE INDIVIDUAL AND WORK GROUP LEVELS

Individual Level

Our key independent variables at the individual level measure respondents' demographic characteristics and family status. The following dichotomous variables are included: gender (1 = female), marital status (1 = married or cohabiting), being a single parent (1 = is a single parent), having children younger than six in the home (1 = has children younger than six in the home), having children aged six to fifteen in the home (1 = has children between six and fifteen in the home), having a full-time homemaker spouse (1 = has full-time homemaker spouse), and providing special care to someone who is elderly, ill, or disabled (1 = provides special care).

Work Group Level

We calculated the work group-level variables from the company's confidential personnel database; these measures of work group composition are derived from data on all members of the work group, regardless of whether they were survey respondents. To test our hypothesis regarding the impact of social support on work-life policy use (hypothesis 2a), we measured the following aspects of work group composition: percentage of women in the work group, percentage of the work group currently married or cohabiting, and percentage of the work group with children. Our data on supervisor support (hypothesis 2b) also came from this database. Supervisor characteristics include two dichotomous variables: supervisor gender (1 = female) and supervisor marital status (1 = married).

Hypotheses 3a and 3b require data on the relative power of work group members and supervisors, as indicated by gender, tenure, and salary. In addition to measures of the percentage of women in the work group and supervisor gender, our models include measures of average log work group tenure, average log work group salary, and supervisor organizational tenure (measured in years). (Because supervisor salary is highly correlated with the salary of the work group, we do not include a separate measure of it.)

CONTROLS

Bryk and Raudenbush (1992) urge multilevel researchers to build models using what they call a "step-up" strategy, rather than starting with all potentially relevant predictors and eliminating those that are not significant. With this advice in mind, our models include only a small number of control variables. Variables were included as controls if their absence significantly changed the impact of a theoretically relevant variable or if their inclusion enhanced the fit of the model.¹³ A slightly different set of control variables is used for each dependent variable.

TABLE 1: Means and Standard Deviations for Individual- and Work Group-Level Variables

	Mean	S.D.
Dependent variables		
Uses family-care policies	.21	
Uses flexibility policies	.26	
<i>Individual-level variables</i>		
Independent variables		
Female	.40	
Married or cohabiting	.73	
Single parent	.02	
Has young children	.19	
Has school-age children	.29	
Spouse is full-time homemaker	.14	
Provides someone special care	.22	
Control variables		
Average weekly hours worked	52.30	9.17
Salary	101,939	52,861
Job autonomy	2.55	.70
(N = 459)		
<i>Work group-level variables</i>		
Independent variables		
Percentage female	.48	.28
Percentage married or cohabiting	.56	.20
Percentage with children	.76	23.52
Female supervisor	.34	
Supervisor married or cohabiting	.82	
Average log organizational tenure	1.85	.63
Supervisor organizational tenure	14.24	9.09
Average log salary	11.35	.34
Control variables		
Percentage nonwhite, U.S.-born	.22	.18
Percentage nonwhite, non-U.S.-born	.08	.11
Percentage white, non-U.S.-born	.03	.06
Average age	41.70	4.23
Staff function	.53	
Supervisor white, U.S.-born	.76	
(N = 76)		

At the individual level, control variables include individual income (salary plus bonus, measured in dollars as the midpoint of a ten-category variable),¹⁴ average number of hours worked per week (measured in hours), and job autonomy

(measured as the average of three items).¹⁵ At the work group level, we included controls for supervisor race and citizenship (1 = supervisor white, U.S.-born); whether the work group was staff or line (1 = staff); average age of work group members; percentage of work group that was nonwhite, U.S.-born; percentage of work group nonwhite, non-U.S.-born; and percentage of work group that was white, non-U.S.-born.

Descriptive Results

We first present descriptive results (see Table 1). In the firm Hochschild (1997) studied, employees had virtually no interest in flexibility policies and more interest in child-care policies. In contrast, we found moderate levels of use and very high levels of interest in both types of policies. Twenty-one percent of the sample had used or were currently using one or more family-care policies (and only 16% reported no need or interest in them; finding not shown). Twenty-six percent of respondents were using or had used flexibility policies (and only 6% expressed no need or interest in these policies; finding not shown). Policy use varied widely across work groups, however: participation rates for family-care policies ranged from 0% to 100%, and participation rates for flexibility policies ranged from 0% to 86%.

At the time of the survey, the average respondent was 42 years old (finding not shown). Sixty percent of our respondents were men. Almost three-quarters were currently married or living with a partner. Only 14% of these partners were full-time homemakers, and all respondents with a full-time homemaking partner were men. About 19% of all respondents had at least one child under six living with them, and roughly 29% had at least one child between six and fifteen living with them. Our respondents were well paid, with an average annual salary of just over \$100,000, and worked long hours, averaging 52 a week.

Additional survey data (not reported) and our open-ended responses provide a fuller picture of respondents' working conditions and, for some, sense of overwork. For example, 62% of the sample said they often worked late. In the three-month period before the survey was conducted, respondents had spent an average of seven nights away from home on work-related travel. At the high end, some had been away from home as many as eighty nights during the previous three months.

These long hours were worked in a stressful, fast-changing work environment. Between 83% and 90% of respondents answered "strongly agree" or "somewhat agree" to questions about whether they often came in to work early or stayed late, worked under tight deadlines, responded to unpredictable events, and found things changing rapidly in their work group.

The most common open-ended comment (32 responses, or 20% of the qualitative answers) was a comment about intense work pressure and long hours. The following statements are typical:

The pressure is affecting my health. Lack of staff is causing us to rush, leaving room for errors.

I am bombarded with new emergencies that force me to put aside all else to deal with this new one. So, everything else must be done after hours or not done at all. If it isn't done after hours, then the next day's emergency cannot be managed.

I and some of my staff have an excessive workload and are consequently missing milestones. This is resulting in heavy job stresses.

Given the work load, consistently reduced headcount, and increasing our pressure, working shorter hours is no way possible. All employees are exhausted.

[International Finance] is an extremely stressful place to work. Especially in the past few years during downsizing. . . . I am doing the work of two or three people, with an intensive work load with no lull. Saturdays and Sundays are catch-up days, but I never catch up. The past few years are characterized by lost vacations, working during vacation and holidays including Christmas Day, late nights, being routinely exhausted. . . . The phone never stops ringing, and the number of e-mails is impossible to handle. Once when I went to see my [child play sports], I received five cell phone calls. When my [spouse] was undergoing major surgery, I was paged to call in [to work].

Respondents also worry that their work lives have harmful effects on their family and personal lives. Just over half the sample said they wished they could "cut down on the hours at work," and half were concerned about the impact their work has on their family and personal lives and felt overloaded by all their responsibilities. For example, in the open-ended question, one employee commented:

The number one reason I would leave [International Finance] is because the demands are incredible. I have always worked very hard and received the top rating on my evaluation each year, but the harder I work, the more that is expected. I have a young family, and it is very difficult to spend time with them. I travel a lot, and it is expected that whenever the hat drops, I'll go wherever [I am asked].

Another respondent echoed this concern:

My child's school refers to me as the "absentee parent" because I can never get to their open evenings. I did not see my youngest child from Sunday evenings until Saturday morning until he was five years old. My kids, when asked why I am not at their school or their concerts, etc., just explain: "our dad works for International Finance."

Our respondents work long, stressful days. Most have families. Half are concerned about the impact their work has on their family and personal lives. So they should be eager to take advantage of the generous work-family policies offered by a company publicly recognized as family-friendly. After all, the company's official value statement promotes keeping a "healthy perspective about life and work" and

encouraging “balance by showing flexibility in how, when and where work gets done.”

However, the use of work-family policies is far from taken for granted. Many employees believe that using work-family policies would hinder career advancement and success. For example, almost two-thirds of our sample said that taking an extended parental leave or setting limits on hours spent at work would hurt their career advancement. Moreover, almost one-quarter of respondents believed that starting a family would negatively affect career advancement, while over half believed that consistently spending long hours at work would have a positive effect on career progress. In contrast, other employment practices — even those that reduce work time, such as paid vacation — are more taken for granted and seen as compatible with career progress. For instance, 87% of employees in our sample reported that taking their full vacation allotment would have no effect (57%) or a positive effect (30%) on “a person’s chances of doing well at this level in the company.”

There is a wide range of responses to these ambiguous and contested policies. For example, one manager reported in response to our open-ended question: “These policies are probably here and in place. But to avail oneself of them would probably interfere with career advancement.” Yet someone else in the same division said: “[I work] at home . . . on a flex schedule. I go into the office for meetings, etc., approximately one to two days a month. I applaud the company for making these types of situations possible.” Given this variation in responses to work-family policies, what determines whether an employee actually uses them? We now turn to analytic models of these factors.

Multilevel Models

BASELINE ANALYSES

Before estimating the full models (containing both individual and work group characteristics), we examined baseline models (containing only individual-level predictors) for each dependent variable. The results from these baseline models allow us to examine the effects of individual-level characteristics and to assess whether there is significant work group variation in employees’ policy use.

We turn first to the baseline model for the log-odds of using family-care policies. For ease of interpretation, we centered all individual-level variables around their grand mean. The results, reported in Table 2, column 1, indicate that several individual-level characteristics affect the log-odds of using family-care policies. As hypothesized, use of these policies is greater among women, those with young or school-age children, and people who provide special care to someone elderly, ill, or disabled. The effects for two other family-status variables — being a single parent

TABLE 2: Baseline Model Predicting Log-Odds of Using Family-Care and Flexibility Policies

Individual-Level Variables	Log-Odds of Using Family-Care Policies	Log-Odds of Using Flexibility Policies
<i>Fixed Effects</i>		
Intercept, γ_{00}	-1.695***	-1.350***
Independent variables		
Female, γ_{10}	.754***	.098
Married or cohabiting, γ_{20}	.399	.258
Single parent, γ_{30}	1.375	-.020
Has young children, γ_{40}	1.586***	-.120
Has school-age children, γ_{50}	1.696***	.308
Spouse is full-time homemaker, γ_{60}	-.982	-.049
Provides someone special care, γ_{70}	.985***	.108
Control variables		
Job autonomy	—	.864***
Average weekly hours worked	-.037***	—
Salary	-.03E-05	—
<i>Random Effect</i>		
	<i>Variance Component</i>	
Intercept, μ_{0j}	.172	1.006***
χ^2	69.542	148.535***
df	75	75
(N = 459)		

* $p < .05$ ** $p < .01$ *** $p < .005$ (two-tailed tests)

and having a full-time homemaker spouse — are in the predicted direction but do not quite reach statistical significance. By contrast, marital status does not affect the log-odds of using family-care policies.

The coefficient for one control variable in the model is also significant: working shorter hours also increases the log-odds of using family-care policies. Decreasing the number of hours worked may be one way people with family responsibilities manage these demands.

The variance component for the intercept, shown at the bottom of column 1, shows that, after accounting for the effects of the individual-level characteristics described above, the log-odds of using family-care policies do not vary significantly across work groups ($\chi^2 = 69.542$, $df = 75$, $p > .500$). These findings imply that use of these policies is shaped *mainly* by individual-level factors. In particular, use of family-care policies seems to depend primarily on need for these policies, with critical constituents (women, parents, and those providing special care to someone elderly, disabled or ill) more likely to use them than other employees.

The baseline model for our second dependent variable, the log-odds of using flexibility policies, yields quite different results. As seen in Table 2, column 2, use of flexibility policies depends much less on individual-level characteristics than does the use of family-care policies. In fact, only one individual-level characteristic affects the log-odds of using flexibility policies: these odds are greater for those with more job autonomy. Counter to our hypotheses, the use of flexibility policies was unrelated to having young or school-age children at home, being a single parent, being female, providing special care to someone, or having a spouse who is a full-time homemaker.

In contrast to the results for the first dependent variable, the variance component for the intercept reported at the bottom of column 2 is statistically significant ($\chi^2 = 148.535$, $df = 75$, $p < .000$). This indicates that there remains significant work group variation in the dependent variable. Hence, these baseline results suggest that individual-level characteristics are much less important for employees' use of flexibility policies than for their use of family-care policies.¹⁶

FULL MODELS

Family-Care Policies

Table 3 shows results for our full models, those containing both individual- and work group-level predictors. At the individual level, we included only those predictors that were (or closely approached) statistical significance in the baseline models.

Column 1 reports the findings for the first dependent variable, the log-odds of using family-care policies. The effects of the individual-level variables included in the baseline model do not change substantially with the inclusion of work group characteristics, though the effect of being a single parent becomes statistically significant in this model. Several work group characteristics are also significant in the full model. These effects represent the expected difference in the log-odds of using family-care policies for respondents with similar individual-level characteristics who are in work groups differing by one unit on a given work group-level variable.

The work group-level results in column 1 show modest support for hypotheses 3a and 3b (regarding coworker and supervisor power) and are directly contrary to hypotheses 2a and 2b (regarding coworker and supervisor social support). The log-odds of using family-care policies are higher for members of work groups containing higher percentages of men and for those with a male supervisor. Hence, women are more likely than men to use family-care policies, but employees in work groups with high percentages of women or with female supervisors report less family-care policy use. Employees in work groups with longer average organizational tenure are also more likely to use these policies than

TABLE 3: Full Model Predicting Log-Odds of Using Family-Care and Flexibility Policies

	Log-Odds of Using Family-Care Policies	Log-Odds of Using Flexibility Policies
<i>Fixed Effects</i>		
Intercept, γ_{00}	-5.429	1.954
<i>Work group-level variables</i>		
Independent variables		
Percentage married or cohabiting, γ_{01}	-.874	-2.305**
Percentage with children, γ_{02}	-.004	-.002
Percentage female, γ_{03}	-2.237***	-.381
Female supervisor, γ_{04}	-.564**	-1.773***
Supervisor married or cohabiting, γ_{05}	-.672**	-.668**
Average log organizational tenure, γ_{06}	1.027***	1.560***
Supervisor organizational tenure, γ_{07}	.000	-.065***
Average log salary, γ_{08}	.176	.340
Control variables		
Percentage nonwhite, U.S.-born	1.133	—
Percentage nonwhite, non-U.S.-born	-4.303**	—
Percentage white, non-U.S.-born	-2.288	—
Average age	.063	-.112**
Staff function	—	2.902***
Supervisor white, U.S.-born	-.310	—
<i>Individual-level variables</i>		
Independent variables		
Female, γ_{10}	1.071***	—
Married or cohabiting, γ_{20}	—	—
Single parent, γ_{30}	1.596**	—
Has young children, γ_{40}	1.689***	—
Has school-age children, γ_{50}	1.833***	—
Spouse is full-time homemaker, γ_{60}	-1.000	—
Provides someone special care, γ_{70}	.937***	—
Control variables		
Job autonomy	—	1.080***
Average weekly hours worked	-.035**	—
Salary	-.03E-05	—
<i>Random Effect</i>		
<i>Variance Component</i>		
Intercept, μ_{0j}	.052	.180
χ^2	50.171	56.363
df	62	65
* p < .05 ** p < .01 *** p < .005 (two-tailed tests)		

members of work groups with shorter average tenure. Contrary to hypotheses 3a and 3b, however, use of family-care policies is not higher among members of more highly paid work groups, nor is use shaped by the organizational tenure of supervisors.

Taken together, these findings suggest that while use of family-care policies is driven by individual need, having powerful coworkers and supervisors facilitates policy use. We find no support for hypotheses 2a and 2b: there is no evidence that having coworkers or a supervisor with family responsibilities increases an employee's odds of using family-care policies. One control variable in the model is also statistically significant: employees in work groups containing larger percentages of nonwhite, non-U.S.-born workers are less likely to use family-care policies than those in work groups containing a larger percentage of white, U.S.-born workers (the reference category).

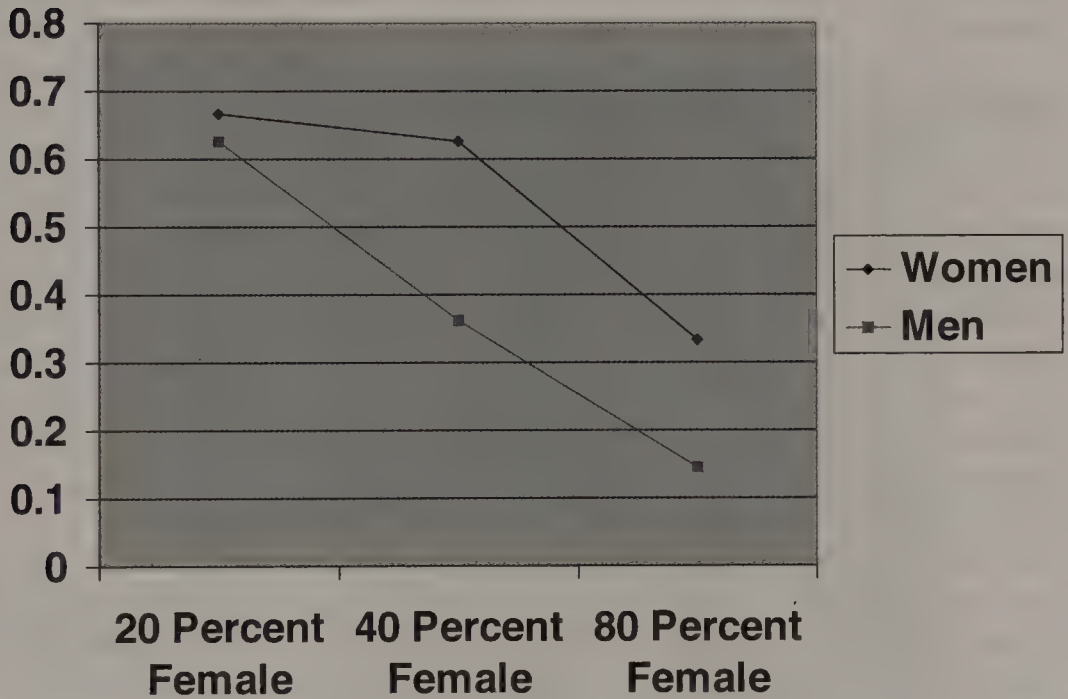
To further explore some of these findings, we calculated the differences in the probabilities of using family-care policies for female workers with young children in work groups with varying proportions of women. Computations drawn from our baseline results show that the average female employee with young children in our sample has roughly a 50% chance of using family-care policies. However, these probabilities change as the percentage of women in the work group rises or falls.

As Figure 1 shows, women with young children who work in mostly male work groups (i.e., 20% female) are more likely to use family-care policies than the average woman with young children (67% chance vs. 51% chance), whereas women with young children working in mostly female work groups (i.e., 80% female) are less likely to use these policies than the average woman in the sample with young children (33% chance vs. 51%). These findings underscore the importance of work group characteristics in explaining the use of family-care policies. Although being female and having young children are significant predictors of use at the individual level of analysis, use *also* depends upon the social context of work in ways that are not the mere aggregation of individual effects. Instead, the results in Figure 1 suggest that the percentage of women in the work group mediates the individual-level effects of being female and having young children.

We performed similar calculations to compare female and male respondents having male versus female supervisors, with all other individual- and work group-level variables estimated at their mean. These estimates are displayed in Figure 2. Of the four groups shown here, women with male supervisors have the highest probability of using family-care policies (.24), while men with female supervisors are least likely to use these policies (.06). This figure shows that having a male supervisor increases the probability of both women's and men's use of family-care policies, although women's overall use of these policies is higher than men's overall use.

In sum, while individual-level factors have the most influence on the log-odds of using family-care policies, work group characteristics are modestly important as well. The net effect of these work group characteristics can be seen in their impact

FIGURE 1: Probability of Using Family-Care Policies for Women and Men with Young Children



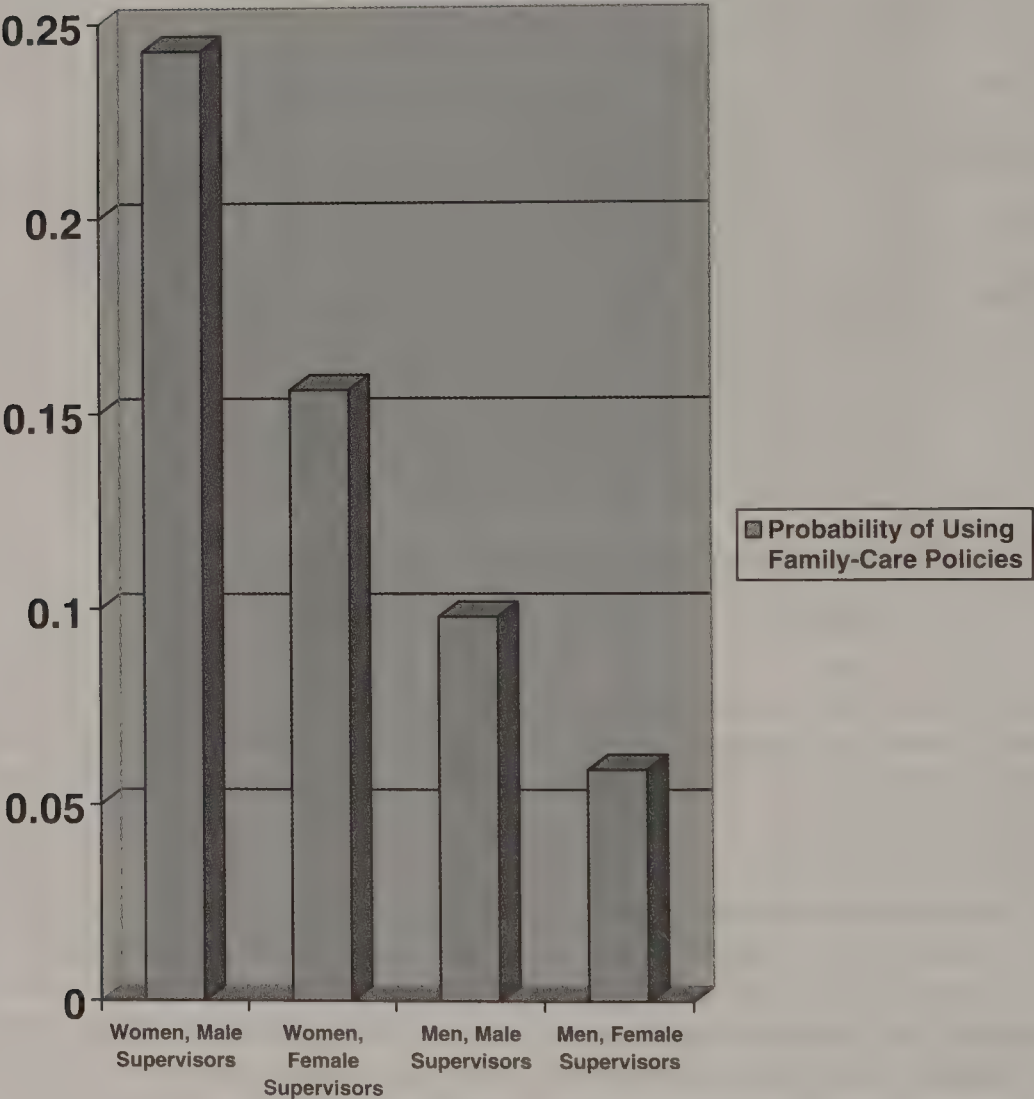
Note: Raw score coefficients (not those based on centered values) are used to calculate probabilities for gender and young children. All variables other than percentage of women in the work group are calculated at their mean.

on the variance component. Inclusion of the work group characteristics reduces the variance component estimated in the baseline model. Using Bryk and Raudenbush's (1992) formula, we find that the variance in the baseline model is reduced by 70% when work group-level variables are included, and we fail to reject the null hypothesis that no residual variance remains to be explained ($\chi^2 = 50.171$, $df = 62$, $p > .500$). Thus, our most general work group-level hypothesis is modestly supported. Although respondents' use of family-care policy is primarily due to individual-level characteristics, work group-level factors also influence use.

Flexibility Policies

We now turn to the full model for our second dependent variable, the log-odds of using flexibility policies. These results are shown in column 2 of Table 3. The effect for job autonomy, the only statistically significant individual-level variable in the

FIGURE 2: Probability of Using Family-Care Policies As a Function of Gender and Supervisor Gender



Note: Raw score coefficients (not those based on centered values) are used to calculate probabilities for gender. All variables other than gender and supervisor gender are calculated at their mean.

baseline model, does not change substantially with the inclusion of work group characteristics.

Several work group-level characteristics affect the log-odds of using flexibility policies. These effects provide some support for hypotheses 3a and 3b and directly

contradict hypotheses 2a and 2b. For example, as we saw for family-care policy use, flexibility policy use is increased in work groups with longer average organizational tenure and in those having male supervisors. Regardless of the employee's own tenure, having coworkers with longer organizational tenure increases the odds that employees will take advantage of work-family policies. Coworkers with longer organizational tenure may be more influential, politically savvy, and knowledgeable about corporate culture and policies than colleagues with a shorter corporate history.

However, not all of our indicators of work group and supervisor power encourage flexibility policy use. Neither the percentage of men in the work group nor average work group salary was associated with flexibility policy use. Moreover, members of work groups supervised by people with less organizational tenure were more, rather than less, likely to use flexibility policies. This latter finding contradicts our suggestion that supervisors with more firm seniority would be better able to facilitate workers' use of flexibility policies than those with weaker organizational ties. However, perhaps supervisors with less organizational tenure are more open to change and innovation than those with longer tenure and thus are more willing to encourage flexibility policy use (cf. Pfeffer 1997).

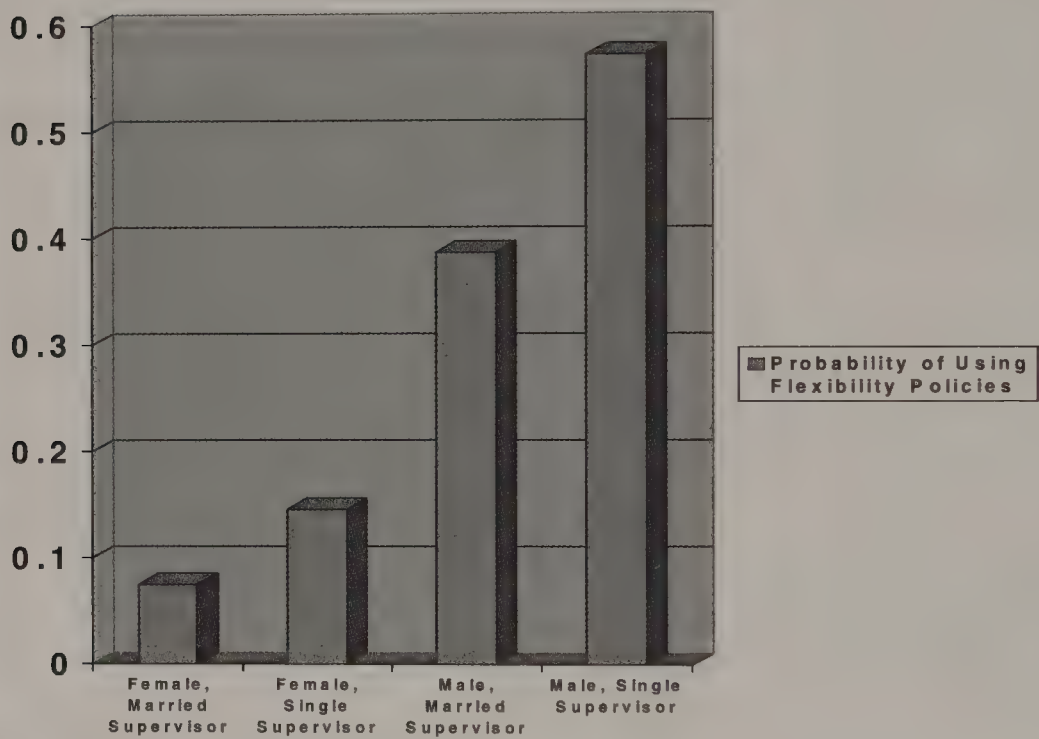
As in the case of family-care policies, having coworkers and supervisors with family responsibilities decreases, rather than increases, flexibility policy use. Flexibility policy use is significantly lower in work groups containing higher percentages of married people and managed by married supervisors. These results are directly contrary to hypotheses 2a and 2b.

We show the combined effects of supervisor gender and supervisor marital status on the probability of using flexibility policies in Figure 3.¹⁷ Employees with female, married supervisors are the least likely to use flexibility policies, while those with male, unmarried supervisors are the most likely to use them. Having a male, unmarried supervisor as compared to a female, married supervisor increases the probability of using flexibility policies by 50 percentage points.

The log-odds of using flexibility policies are also influenced by two other work group-level factors (Table 3, column 2). Employees working in a staff division providing internal services to the company are more likely to use flexibility policies than those in line divisions serving external customers. This effect may capture unmeasured differences in job characteristics or work group culture. In addition, the log-odds of using flexibility policies are higher in work groups containing employees whose average ages are lower.

There is a substantial reduction in the variance component from the baseline to the full model. Inclusion of work group characteristics reduces the variance in the intercept by 82%, and we fail to reject the null hypothesis that no residual variance remains to be explained ($\chi^2 = 56.363$, $df = 65$, $p > .500$). Clearly, work group characteristics play an important and independent role in shaping respondents' log-odds of using flexibility policies.

FIGURE 3: Probability of Using Flexibility Policies As a Function of Supervisor Gender and Supervisor Marital Status



Note: All variables other than supervisor gender and supervisor marital status are calculated at their mean.

Discussion

Managers and professionals in our sample work long, stressful hours. Most are interested in work-family policies, and a minority has used at least one official policy. Our findings caution against treating different policy types as if they were similar or interchangeable. Even in our fairly homogeneous sample of managers and professionals in one firm, family-care and flexibility policies were mostly used by different people with different individual and work group features.

The use of family-care policies is largely driven by family need and only modestly affected by work group characteristics. For example, if an employee's child is too ill to go to day care, the employee is likely to take a sick day to care for this child regardless of the characteristics of the supervisor or work group. This is particularly true for employees likely to have primary responsibility for family care — women, single parents, workers who care for someone who is ill, elderly, or disabled, and workers without a full-time homemaking spouse.

In contrast, individual-level characteristics have minimal impact on whether managers and professionals at International Finance take advantage of flexibility policies. Contrary to our hypotheses, none of our measures of family need were associated with flexibility policy use.

At the most general level, we expected that work group-level factors would influence respondents' policy use, independent of individual-level factors. This expectation was supported modestly for family-care policies and powerfully for flexibility policies. What accounts for this difference in the relative impact of individual- versus work group-level characteristics? One possibility is that use of flexibility policies may require more schedule adjustments and cooperation from other work group members than use of family-care policies. Missing work occasionally to care for a sick child or even taking parental leave may impact others less than switching to a more flexible work schedule. Work group characteristics thus may have a greater effect on employees' policy use when use depends upon coworkers' cooperation.

A second explanation for this difference is that the conditions under which employees may use family-care policies are less ambiguous than those surrounding flexibility policy use. This implies that the greater the degree of consensus at the organizational or societal level over who may use these policies and for what purposes, the less the impact of local, work group characteristics. While work-family policies *in general* may be ambiguous and contested, family-care policies may be less so than those relating to flexibility. Family-care policies are to be used specifically to care for a dependent or relative. In addition, these policies and their uses have been shaped by federal legislation, such as the Family and Medical Leave Act, as well as by the involvement of the courts and legal system (Guthrie & Roth 1999b; Kelly 1999). Flexibility policies, on the other hand, have not been the target of national legislation, and their purposes are less clearly defined. Though they are often packaged as part of a work-family initiative, flexibility policies may meet a variety of other organizational and individual needs, including helping workers handle long workdays or manage commutes (Gottlieb, Kelloway & Barham 1998). Thus, the particular ways that flexibility policies come to be understood and used should be highly sensitive to work group-level characteristics and dynamics, as our results indicate.

How do work group characteristics shape policy use? Our findings offer some support for our hypotheses stressing the social resource of power and protection.

More powerful supervisors and coworkers may provide social resources for knowing how to successfully take advantage of work-family policies or inoculate workers against some of the negative effects that policy use may have on their careers.¹⁸

As noted earlier, there are many possible reasons why male supervisors and coworkers could have, in general, amassed more workplace power than female supervisors and coworkers. Being unmarried may also increase one's power in the organization. For example, perhaps professional and managerial employees with fewer family responsibilities can focus more single-mindedly on their careers, spend more energy cultivating critical networks, and thus ascend higher or more quickly through the organizational ranks. Moreover, simply having family obligations may signal that one is less committed to the firm than employees without family obligations and thus slow individual advancement (Blair-Loy 2001). In support of this argument, recall our finding that almost a quarter of respondents believed that starting a family would have a negative effect on their chance of advancement in the company. Thirteen percent felt the same way about being a member of a dual-career household.

Our qualitative interviews lend support to our findings on the importance of supervisor and work group power in enabling the use of risky work-family policies. One of the line managers who had conducted an internal survey on employees' work-family balance described the company as having a "tough, macho culture" that encouraged people to brag about their long hours. The other line manager echoed that "the culture here is to dedicate your life and soul to the bank. That's how people at the top got there." She added that there "are perceptions that using these policies is costly to them, to their success at the bank, to moving up. . . . If you ask for time off or flexible hours, you're considered a wimp, and you won't make your way to the top." She argued further that in order for individuals to take the countercultural step of using work-family policies, one needed a supervisor strong enough "to buffer that strong culture, [strong enough] to protect workers."

Another informant explained that more powerful supervisors and coworkers (or those believed to be more powerful) may provide "air cover" for employees who use work-family policies, thereby protecting them from any negative career consequences. Hence, professional and managerial employees may find in work groups dominated by senior, male, and unmarried colleagues and in male and unmarried supervisors the resources that buffer them from the real or perceived threats that using work-family policies pose to their career advancement.

This argument is broadly consistent with Glass and Camarigg's (1992) findings that jobs typically held by women have less authority and are thus less compatible with the demands of parenthood than those typically held by men. These researchers found that the jobs *most* compatible with combining work and family life are those *least* likely to be filled by people who need this compatibility. Similarly, we show that employees' opportunities to take advantage of work-family policies are greatest

when they have supervisors and coworkers with fewer family responsibilities. Workers who attain the kind of jobs where they are protected by powerful supervisors and coworkers are better able to take advantage of work-family policies than other workers. Ironically, having family responsibilities could hinder access to these very jobs, as family responsibilities may signal less than complete dedication to one's work. While many employees may desire to use work-family policies, only some will have access to the kinds of positions that are compatible with policy use with minimal career costs. Workers with family responsibilities may find these positions particularly difficult to obtain.

Conclusion

This article has extended institutional research in new ways by focusing on the intraorganizational processes shaping the potential institutionalization of work-family policies. We show that the formal existence of a policy does not guarantee its use and that policy use is shaped by more than individual need. While individual-level factors are important, the social context of work also affects workers' decision to use officially available work-family policies. Social context may be especially salient when policies are controversial and ambiguous, as are work-family policies. The social context effects uncovered here suggest that coworkers' and supervisors' workplace power, rather than their own family caregiving obligations, may be crucial determinants of managerial and professional employees' use of work-family policies.

More research is needed to fully assess the roles that coworker and supervisor power and resources play in shaping employees' use of work-family policies. More attention to the mechanisms through which social context shapes individual behavior is also necessary. We hope that our article will be useful for researchers studying the impact of social context on other organizational issues. In particular, future research should explore whether our findings also characterize lower-status workers and whether other types of contested policies are also more likely to diffuse among individuals under the patronage of powerful actors. Work-family policies are incompletely institutionalized, and their substantive effects unfold in unintended and surprising ways.

Notes

1. This neglect of work group context is related to the broader discipline's movement away from social context and process (Abbott 1997) and to many work and organization scholars' preoccupation with macrolevel effects and atomistic perspectives borrowed from economics (Simpson 1989). This neglect may also reflect difficulties researchers face in gaining access to organizational members (Jackall 1988).

2. The argument that people use information from their social environment to form attitudes and behavior expectations is also supported by research on social information processing and social networks and by studies of organizational climate (Rentsch 1990; Rice & Aydin 1991; Robinson & O'Leary-Kelly 1998; Salancik & Pfeffer 1978; Schneider 1990).
3. The U.S. sample analyzed here is a part of a larger international sample. The surveys were confidential, and they were anonymous in the sense that we knew what work group a response came from but not what individual.
4. For the third division, the survey was sent to U.S.-based professional and managerial employees in three major geographical centers.
5. It is extremely challenging for researchers to penetrate organizations (cf. Jackall 1988). Nevertheless, our response rate is comparable to the 52.9% response rate for the 1997 National Study of the Changing Workforce, a telephone survey of individuals using random-digit-dialing methods (see also Bond, Galinsky & Swanberg 1998).
6. We could not detect any pattern to the small amount of data missing from the personnel database.
7. These models were very poor predictors of work group-level nonresponse, explaining only 5% of the variance in nonresponse. Log work group size was the only significant predictor of nonresponse; larger work groups had higher levels of nonresponse. As Berk (1983) notes, low explained variance, coupled with a nonsignificant effect of the selection variable in the substantive equation, suggests that nonresponse is random.
8. Because many of our work groups are relatively small (e.g., fewer than 10 employees), we use a random intercept model. In this type of model, the intercept is allowed to vary randomly across groups, but the slopes are fixed. Models containing large numbers of random effects are impossible to estimate when there are few observations per group (see Bryk & Raudenbush 1992). We report results from "population-average" models with robust standard error estimates (Bryk, Raudenbush & Congdon 1996).
9. These policies are also available to nonexempt workers. We are currently conducting research on nonexempt employees.
10. Factor loadings for the three family-care policies range from .55 to .66; factor loadings for the three flexibility policies range from .48 to .81.
11. The Pearson correlation between respondents who used at least one family-care policy and at least one flexibility policy is only .145. The Pearson correlation between those who used at least one family-care policy and at least one policy to cut hours is .184. And the correlation between respondents who used one or more flexibility policies and one or more policies to cut hours is .145.
12. Respondents reported that they were currently using or had used the following family-care policies: referral services or materials (13%), dependent sick time (13%), and dependent leave (1.5%). They reported that they were currently using or had used the following flexibility policies: flextime (23%), flexplace (12%), and compressed workweek (.6%). Parents of young or school-age children (41% of the total sample) were about

twice as likely to use each of the family-care policies than was the sample as a whole but were not more likely to use the flexibility policies than the overall sample. A limitation to our dependent variables is that, for employees who have used a work-family policy, we do not know exactly when this use occurred. Our models assume that employees' current individual and work group characteristics were the same when they actually used the policies.

13. We estimated models containing several different control variables. In addition to the control variables described in the text, we estimated models that controlled for age, log job tenure, and log organizational tenure at the individual level and for supervisor age at the work group level.

14. Our income categories were (1) under \$40,000; (2) \$40,000-59,999; (3) \$60,000-79,999; (4) \$80,000-99,999; (5) \$100,000-129,999; (6) \$130,000-159,999; (7) \$160,000-189,999; (8) \$190,000-229,999; (9) \$230,000-259,999; and (10) over \$260,000.

15. The three items were "I have a lot of control over how I balance my work and personal life"; "It's easy for me to arrange my work schedule when I need time off for work or personal obligations"; and "All things considered, I have a lot of control over how I do my work" ($\alpha = .76$).

16. When individual-level predictors are centered, as in our models, the intercept can be used to calculate the average likelihood of using a particular set of policies across the entire sample, using the equation $\hat{\mu}_{ij} = \frac{1}{1 + \exp\{-\gamma_{00}\}}$. We performed these calculations

for both dependent variables and found that the average likelihood of using either family-care or flexibility policies is modest. The average probability of using flexibility policies is .20, while the average probability of using family-care policies is .14; the typical respondent has a 1 in 5 chance of utilizing flexibility policies and only a 1 in 7 chance of taking advantage of programs relating to family care.

17. In this figure, all variables other than supervisor gender and supervisor marital status are calculated at their mean. Since 60% of the sample is male, the modal respondent is male.

18. Are supervisors in work groups with high levels of policy use perceived as more supportive of work-life issues than other supervisors? In supplemental analyses (not reported), we found that net of individual and work group characteristics, perceived supervisor supportiveness had no effect on respondents' use of family-care policies. In the case of flexibility policy use, the effect of perceived supervisor supportiveness was positive and significant when individual characteristics alone were included in the model, but this effect was virtually eliminated ($p = .11$) with the inclusion of supervisor characteristics. This latter finding suggests that perceived supervisor supportiveness may mediate the relations between supervisors' demographic characteristics and respondents' use of flexibility policies. In our ongoing work, we are further examining the relations between supervisor power, perceived supervisor supportiveness, and respondents' ability to use work-life policies.

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An Ecological Theory of Spatial Evolution: Local Density Dependence in Tokyo Banking, 1894-1936*

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Abstract

Organizations exist in a differentiated spatial ecology generated by past foundings and failures and affecting important organizational and individual outcomes. While ecological theory has traditionally emphasized the temporal evolution of organizational populations, this article considers their spatial evolution. Theories of spatial contagion, competition, and density dependence are used to make competing predictions on how geographically delineated subpopulations grow and interact with neighboring subpopulations. The hypotheses are tested on data from the early history of banking in Tokyo, with findings supportive of density dependence within areas and among neighboring areas. This suggests that the spatial evolution of organizational populations is a promising new area for ecological research, with opportunities for better understanding the theoretical and practical problems of spatial clustering and the boundaries of organizational populations.

What determines when and *where* new organizations will be established? When new organizations are founded, and when organizations grow by founding branches, they occupy specific locations in geographical space. The location of an organization affects its relationship with clientele and its competitive and mutualistic relations with other organizations. Accordingly, an issue that currently attracts attention is how legitimation and competition across geographical space affect organizational

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founding (Hannan et al. 1995; Hedström 1994; Kalnins & Chung 2001; Lomi 1995), failure (Baum & Mezias 1992; Sorenson & Audia 2000; Swaminathan & Wiedenmayer 1991; Wade, Swaminathan & Saxon 1998), and change (Baum & Haveman 1997; Greve 1995; McKendrick, Doner & Haggard 2000). The findings suggest that location is important for organizational life chances. Organizations with few nearby competitors can in the short run have higher performance and lower probability of failure (Baum & Mezias 1992; Ingram & Inman 1996), but they are less robust than organizations that have experienced more competition (Barnett, Greve & Park 1994; Barnett & Hansen 1996; Swaminathan 1996).

Work on the spatial relations of organizations has strong links with work on the functional differentiation of cities and regions (Hawley 1950; Porter 1990), local elites (Davis & Greve 1997; Friedland & Palmer 1984; Kono et al. 1998), local labor markets (Cohn & Fossett 1996; Fujiwara-Greve & Greve 2000; Hannan 1988; Kulis & Shaw 1996), and the spatial distribution of income inequality (Telles 1995). Functional differentiation of cities is created by different organizational forms occupying different places in a city: banks here, jewelers there, warehouses somewhere else. Spatial distributions of inequality are in part the result of externalities from organizations, as organizations offer jobs, influence real estate prices, and cause exposure to pollution. Functional differentiation is a macrophenomenon whose microlevel equivalent is homogeneity. Differentiation is discernible when each organizational form is concentrated in a different place. Exploring the determinants of local homogeneity of organizations thus has implications for a wide range of research.

Economic research has a long tradition of exploring the origin of spatial distributions and has pursued two opposing ideas. First, prior firm foundings contribute to the economic development of areas, creating better markets for intermediate products and labor that attract firms and thus cause spatial agglomeration (Arthur 1994; Marshall 1925; Porter 1990). Second, monopolistic competition in spatial markets leads to competitive preemption, where large firms will quickly fill empty locations to prevent other firms from entering (Hotelling 1929; Prescott & Visscher 1977; ReVelle 1986). Agglomeration and preemption make opposing predictions, and both differ from a third class of theory where organizations locate near immobile resources and do not react to the location of other organizations (Kim 1995).

The opposition of agglomeration and preemption in economics resembles the opposition of legitimation and competition in population ecology (Hannan & Freeman 1989), and a similar resolution seems possible by considering whether legitimation and competition processes can operate locally within geographically delineated subpopulations. If these processes are localized, then the early entrants of an organizational form in a small spatial area may initially encourage additional entrants by legitimating the organizational form *in that area*, but at a certain level

of density the competition will increase to the point where foundings slow down (Lomi 1995). The result is local density dependence.

This theoretical resolution raises the problem of how a subpopulation interacts with neighboring subpopulations. Positive effects of neighboring populations have been shown on the founding rates of organizations (Hannan et al. 1995; Hedström 1994; Wade, Swaminathan & Saxon 1998), suggesting that the primary effect is to legitimate the organizational form. Countering this legitimation effect is the local competition for resources such as customers, employees, and financing (Baum & Mezias 1992). A local concentration of an organizational form may draw such resources away from its surrounding areas, leading to impoverished resource space and fewer foundings nearby (Lomi & Larsen 1996).

This article develops theory and implements empirical tests of how organizational subpopulations interact locally and with neighboring subpopulations. The main component of the theory is the spatial distribution of legitimation and competition effects. The empirical test proposed here takes advantage of a statistical technique to extract temporal effects on founding, which cleanly separates the temporal evolution of the population examined by ordinary ecological studies and the spatial distribution studied here. Data on the bank and branch entry into different areas of Tokyo from 1894 to 1936 are analyzed. This period saw the establishment of a modern banking system in Japan and thus contains the early portion of the population history needed to test arguments on legitimation. Tokyo was a contiguous banking market sufficiently large to be considered a separate population overall (Carroll & Hannan 2000; Han 1998), but here it is analyzed as a set of interacting adjacent subpopulations to study the local and neighbor effects.

Theory and Hypotheses

The problem of which niches will be most susceptible to founding events is an old one in the theory of markets and organizations, and theories emphasizing different aspects of niches and interorganizational relations have made mutually contradictory predictions. The theories can be classified as models of spatial competition, spatial contagion, and spatial density dependence. Density dependence is the most comprehensive of these, as it covers both competition and contagion forces, and it integrates the former two. Unlike the explicitly spatial ideas of spatial competition and spatial contagion, however, density dependence has so far been applied to spatial interrelations only in occasional articles (Baum & Haveman 1997; Greve 2000; Hannan et al. 1995; Sorenson & Audia 2000; Wade, Swaminathan & Saxon 1998). An important task of this article is thus to develop a theory of spatial density dependence and contrast it with spatial competition and spatial contagion.

SPATIAL COMPETITION

The economic theory of pricing in spatial markets assumes that organizations near each other compete more strongly than organizations farther away, but shows that price competition among neighbors affects their neighbors again, so competitive effects are also felt across a distance (Hotelling 1929; Prescott & Visscher 1977; Schmalensee 1978). Thus, the entire market is interdependent, but the lowest interdependence and best opportunities are in open niches far away from competitors. Firms that enter a region sequentially and anticipate such local competition will locate at maximum distance from previous establishments (Prescott & Visscher 1977). As more firms enter the market, the increasing difficulty of finding positions away from others will shrink the profits of a firm that makes the best possible entry decision until they reach a point where additional entry is unprofitable. Since the maximal distance between firms is negatively related to the number of firms in a given area, this leads to the following predictions:

Hypothesis 1a: The number of organizations within a geographical area is negatively related to the rate of organizations entering the area.

Hypothesis 1b: The number of organizations in neighboring areas is negatively related to the rate of organizations entering the area.

Hypothesis 1c: The negative effect of the number of organizations on the entry rate is lower for neighboring areas than for the same area.

The macro process of spatial competition is created by micro processes of firm and customer search for optimal price-product combinations under conditions of uncertainty (White 1981). Important spatial components of these processes are transportation costs that prevent direct competition between distant firms and search costs (for the consumer) that reduce the effect of competition. The spatial range of neighbor effects such as those predicted in hypothesis 1c is thus determined by how easily the firm can move its good to consumers or how easily the consumer can reach the firm (as in on-premises services such as banking). Thus, the range varies by the available transportation technology and price and is likely to be wider in societies with inexpensive means of transportation.

SPATIAL CONTAGION

Research on the diffusion of innovations has shown that behaviors spread through interpersonal communication and observation, which is especially strong among persons who have some preexisting social relation (Cyert & March 1963; Rogers 1995; Rogers & Kincaid 1981). Similarly, innovations spread among organizations tied by interpersonal networks or occupying similar social roles (Galaskiewicz & Burt 1991; Palmer, Jennings & Zhou 1993; Strang & Soule 1998). While most research has focused on how existing organizations come to adopt similar practices,

organizational founding has also been modeled as a diffusion process (Hedström 1994).

Diffusion occurs as a result of transferring ideas on what kinds of organizations both can and should exist and by transferring knowledge on how to found, staff, operate, and transact with a given organizational form. Transfers of operational information are most likely to happen through direct communication among individuals; so organizational founding follows contact transmission between individuals knowledgeable about a given organizational form and individuals lacking such knowledge. Contact transmission is mediated by social networks, which have declining density as the spatial distance increases (McPherson & Ranger-Moore 1991), causing the founding of organizations to follow a spatial contagion pattern with declining influence farther away from each existing organization (Hedström 1994; Hedström, Sandell & Stern 2000). This leads to the following predictions:

Hypothesis 2a: The number of organizations within a geographical area is positively related to the rate of organizations entering the area.

Hypothesis 2b: The number of organizations in neighboring areas is positively related to the rate of organizations entering the area.

Hypothesis 2c: The positive effect of the number of organizations on the entry rate is lower for neighboring areas than for the same area.

Underlying the macro pattern of spatial contagion are three micro processes with spatially differentiated influences on firm founding (Aldrich 1999). First, observation of a given organizational form influences judgments of the value or profit potential of operating such an organization, leading to bandwagons of organizational founding (Aldrich & Fiol 1994). Such bandwagons require the presence of many alternatives with high uncertainty (Banerjee 1992) and are thus especially likely during periods of rapid social or technological development or economic uncertainty. They are spatially differentiated because entrepreneurs most easily obtain information on firm foundings near their place of residence or work.

Second, employees of a given organizational form gain knowledge of how to operate its production technology (Sorenson & Audia 2000), including explicit knowledge learned through instruction and tacit knowledge learned through experience. Through their normal work, employees have low-cost access to a stock of knowledge that outsiders can obtain only at great cost. As a result, entrepreneurs are likely to found organizations similar to their prior or current employers, leading to the well-known relation between work experience and organizational founding (Cooper & Dunkelberg 1987; Pred 1966). A variant of this argument is that the employees of existing organizations are a pool of knowledgeable labor that an entrepreneur can draw upon when founding an organization or developing it. This knowledge acquisition also has spatially differentiated effects given that entrepreneurs tend to found firms near their residence (Hamilton 1974).

Third, the local environment is the easiest place for potential founders to establish vertical connections to customers and to suppliers of capital and other inputs. Social networks can help entrepreneurs obtain production equipment and orders that would not be available to someone outside the referral network (Uzzi 1996). Interrelated steps of a manufacturing process can be made by different firms provided they are located near each other, so distributed manufacturing processes are usually geographically concentrated (Lazerson 1995; McKendrick, Doner & Haggard 2000). Ease of being found by consumers may encourage similar kinds of organizations to operate near each other, as is often seen in retail business (Caplin & Leahy 1998). The two processes of value judgment and operational knowledge have effects that are spatially differentiated by daily human mobility, but vertical relations have effects that are spatially differentiated by the cost of moving goods and thus are potentially widespread. While the well-known knitwear production networks in Italy involved moving goods-in-process between subcontractors by handcarts (Lazerson 1993), corporations can put adjacent steps of a manufacturing process in different nations (Harrison 1997; McKendrick, Doner & Haggard 2000).

The extent of spatial differentiation in contagion processes clearly differs among these microprocesses and varies by the ease of transporting goods and information. In a given population, the process with the narrowest reach is likely to act as a binding constraint that limits the reach of spatial contagion allowed by the other processes. For example, information technology businesses have products that are easy to transport and are founded by technologically sophisticated entrepreneurs who can use Internet-based services to obtain value judgments and operational information from afar. These conditions suggest that the industry would be dispersed, but instead it contains dense clusters such as Silicon Valley. The clusters have been attributed to the narrow spatial reach of the most specialized and valuable operational information, which tends to travel only by personal contact (Brown & Duguid 2000). Judging the boundaries of spatial contagion thus requires attention to the shortest-ranged transfers of information or goods valuable to an industry.

SPATIAL DENSITY DEPENDENCE

Density dependence theory incorporates concerns for both competition and legitimation effects from extant organizations. The ordinary (nonspatial) version of it takes the effect of other organizations to be positive at low density, as their effect of legitimating the organizational form in the society outweighs their competitive effects (Hannan & Freeman 1989). As the density increases, the added legitimation effect of an additional organization decreases but the competitive increases, so at some point the effect of competition outweighs that of legitimation. This leads to an inverse U-shaped effect of the population density on the rate of founding.

The theory assumes that legitimation and competition take place in an organizational niche that is spatially bounded by the mobility of the product or service of the organizational form. Niches are continuous, as geographical space is, but are more conveniently analyzed as discrete units such as nations or subnational regions (Carroll & Swaminathan 1991; Freeman & Lomi 1994; Hannan et al. 1995; Sorenson & Audia 2000). Finding the boundary of competition is not completely straightforward, as blending processes occur among adjoining areas (Hannan & Freeman 1989), blurring the boundaries of the social system, and organizations complicate the picture further by competing over a range of different geographical arenas (Barnett 1993; Carroll & Swaminathan 1992). Finding the boundary of legitimation is even more problematic because the underlying mechanism of knowledge dissemination and resource mobilization is understood less well and can have a potentially wide reach (Hannan et al. 1995).

Perhaps because of these boundary problems, empirical studies of density dependence have found that different geographical delineations can be used in studying the same population (Carroll & Swaminathan 1992; Freeman & Lomi 1994) and that density dependence can cross geographical boundaries and organizational forms (Barnett 1990; Baum & Singh 1994; Carroll & Swaminathan 1992; Hannan et al. 1995; Hannan & Freeman 1987; Lomi 2000). Multilevel density dependence is caused by the same processes of information dissemination and competition that were discussed under spatial competition and spatial contagion. The information transfers causing legitimation and the interdependence causing competition are based on the mobility of persons and goods and vary in strength depending on the mobility costs and interaction frequency. If legitimizing information is distributed proportionally to the proximity to each organization (Hedström 1994) and competitive effects are distributed proportionally to the proximity to each organization (Baum & Mezias 1992; Sorenson & Audia 2000), then density dependence will occur locally within geographically delineated subpopulations. This leads to the following prediction:

Hypothesis 3a: The number of organizations within a geographical area has an inverted-U-shaped effect on the rate of organizations entering the area.

Populations also interact with their neighbors. In the past, such effects have been excluded from empirical consideration by specifying population boundaries wide enough to avoid neighbor interaction: "neighboring populations should evolve relatively independently if the level of analysis has been specified correctly" (Hannan & Carroll 1992:208). There are good reasons to amend the neglect of spatial interactions in ecological research. First, the spatial distribution of organizations is a question of interest equal to their temporal rates of founding. Spatial distributions determine access to the work and services of organizations and affect economic development and social inequality. Second, organizations cluster spatially just as their vital events (founding and failure) cluster temporally,

suggesting that similar processes of cumulative causation are at work. Spatial interactions seem to be an inviting new domain for ecological theory.

One model of neighbor interaction relies on the suggestion that competition has primarily local effects but legitimation has wide-ranging effects (Hannan et al. 1995). Competitive interdependence among organizations can be reduced by transportation costs and eliminated by legal or technical segregation (such as trade barriers or incompatible standards), so its reach is clearly limited. British automobiles have the steering wheel on the right, Irish cotton products (but not raw cotton) were blocked from the British market by tariffs (O'Hearn 1994), and bank services could only be conducted cost-effectively inside the branch before the Internet. Legitimation is built on the transfer of information on how to found, operate, and transact with a given organizational form, however, and is not easily limited by transportation costs or by legal or technical barriers (but perhaps cultural ones). The concept of a car spreads more easily than the car itself, and designs of cotton products are not stopped by tariffs. The early European automobile industry showed density dependence within nations and legitimation across Europe, in support of local density dependence and nonlocal legitimation (Hannan et al. 1995).

The theory of local density dependence and nonlocal legitimation would predict a legitimation-only effect from neighboring populations, just as spatial contagion theory does. Although this theory is well suited to explaining interactions between organizational populations separated by barriers such as national borders, it does not fit the case of local subpopulations in a uniform legal, cultural, and technical environment. With no boundaries except transportation costs separating the populations, competition should also have nonlocal effects such as those posited by spatial competition theory. Taking spatial density dependence to be the result of the joint effect of spatial competition and spatial contagion suggests that the effect of a given subpopulation's density gradually weakens as the distance from that subpopulation increases, but it retains the same inverted-U-shaped effect on founding. This leads to the following predictions:

Hypothesis 3b: The number of organizations in neighboring areas has an inverted-U-shaped effect on the rate of organizations entering the area.

Hypothesis 3c: The inverted-U-shaped effect of the number of organizations on the entry rate is weaker for neighboring areas than for the same area.

Since spatial density dependence theory is made by integrating concerns of spatial competition and spatial contagion, it involves the same microprocesses. Hence, its boundary conditions are determined by the cost of transporting goods, knowledge, and persons. Nonspatial studies of population ecology have used such factors to judge the boundaries of populations, and studies of spatial interactions in organizational populations can apply a similar logic. An approach consistent with past research would be to draw the boundary of the population in the same way as a usual population ecology study but to subdivide the population into

spatially bounded subpopulations. A more advanced approach would be to determine the boundaries empirically by drawing an initial set of boundaries thought to be wide enough to delineate influences (but possibly too wide) and then use exploratory analyses of influence among areas using similar methods as employed in this article. If the analysis shows weak influence or an absence of influence across neighboring populations, then they are in fact separate populations. If the analysis shows strong effects, then the neighboring populations should be treated as interacting subpopulations. Methodological work on the diffusion of innovations and other forms of social influence suggests that such tests can correctly identify the boundaries of a study population (Greve, Tuma & Strang 2001; Tuma & Greve 1999).

The hypotheses are tested on the early history of branch banking in Tokyo. This is a good context for testing hypotheses on local and neighbor competition, contagion, or density dependence, as it covers the formation of an organizational population with clear spatial differentiation of competition and contagion. Banking is conducted within each establishment and relies on the movement of customers to the branch or headquarters, making the transportation cost of the customers a key constraint to the spatial reach of competition. Legitimation effects were also important, as the organizational form of bank was a new entrant into the market for financial services. Although it had the support of the government, it still needed to compete with older organizational forms offering similar financial services. Potential founders faced considerable uncertainty regarding the profitability of banking and the practical procedures of operating a bank.

Branch banking was an advanced form of banking and needed a separate legitimation process since both customers and bank managers were unfamiliar with it. Bank headquarters lent legitimacy to branches, since branches were extensions of the headquarters, but they also competed with branches (Greve 2000). The newer organizational form of branches would be unlikely to legitimate headquarters. In particular, banks conducting business in only one location embody a very different conception of banking than branch banks do, as they rely more on adaptation to a local customer base and less on the cost advantages of large-scale operation and standardized services (Barnett, Greve & Park 1994). Thus, the effects of banks and branches on each other are likely to differ, with banks having a legitimating effect on branches, but not the other way around. Since the focus of this article is on spatial interdependence rather than interform interdependence, however, formal hypotheses on this interaction are not made.

Early Tokyo Banking

After the shogunate government fell in 1868, the new Japanese government sought to modernize rapidly and encouraged the establishment of all kinds of formal organizations characteristic of the Western societies, including banks. Still, the new

banking system had its roots in the medieval financing system of Japan. In 1868, the major cities of Japan already had well-developed financial systems based on exchange brokers (*ryogae*) (Asakura 1967; Patrick 1967; Tamaki 1995). The *ryogae* merchants provided many of the same services as modern banks but differed in the financing side. Although a deposit account system similar to that of modern banking had been created (Tamaki 1995), the capital used by *ryogae* shops was mostly owned or mediated by the merchant. The *ryogae* shops created skills similar to those used in modern banking and a class of capital owners that would become the owners of most banks established after 1868 (Tamaki 1995).

When the organizational form of bank was introduced through the National Bank Act of 1873, the deposit system was still not used much, and national banks were financed largely through equity, note issue, and loans placed in the Bank of Japan. Government sources of funding were gradually reduced, forcing banks to substitute individual deposits as a source of lending capital. In 1883 note-issue rights for national banks were repealed, and in 1897 the Bank of Japan started dealing directly with firms, depriving banks of funding through note circulation and loan brokerage. In 1895, deposits funded 44.2% of all bank loans, but this figure rose to 71% in 1899 and kept increasing (with some dips) until full coverage was reached in 1917 (Bank of Japan 1966).

The shift from government to depositors as a source of funds affected the spatial distribution of banks. The *ryogae* shops were concentrated in the Nihonbashi area in central Tokyo, and banks were subsequently established in the same area. In 1894, 60 of the 75 banks and branches in metropolitan Tokyo were in Nihonbashi. This concentration was not a problem as long as banks were financed through the personal connections of the owners (like *ryogae* shops) and through privileges of note issue and loans from the Bank of Japan (like national banks). However, to attract deposits it became increasingly important to locate near potential depositors, so banks and branches became established in the other fourteen wards of Tokyo and the surrounding five counties. Although bank offices established in open niches benefited from the transportation costs of consumers, they were not isolated from competition. Interest rates in Tokyo were subject to price competition, and attempts to fix them through the bankers' association were unstable (Tamaki 1995), as one would expect if the market were connected sufficiently that neighbor-to-neighbor competition spilled over.

Tokyo grew in this period, as increased population and better means of communication spurred settlement outside the old city boundaries. The counties around Tokyo became increasingly integrated into the metropolitan area's economy and infrastructure. In 1894, the population of Tokyo was fairly centralized, and the distribution of banks and branches even more so, but both became more dispersed during the study period. The initial center remained strong, however, so the population shows evidence of the spatial agglomeration seen in many other organizational populations.

Data

The study is limited in space to the current Tokyo metropolitan area. This area includes the fifteen original wards and the five surrounding counties and excludes the rural western part of Tokyo prefecture. The study is limited in time to the period from 1894 to 1936. The start is determined by the beginning of the annual *Census of Banks* and is 21 years after the establishment of the first national bank and one year after the Bank Act was passed to regulate the establishment of ordinary banks (Asakura 1967). This means that we cannot follow the population since its inception, which would be desirable. However, 1894 is still an acceptable starting time for the study, since it is early in the transition from a government-backed banking system to a competitive one. The study ends in 1936 because government interference in banking increased in 1936 as the economy was geared toward war (Goldsmith 1983).

Banking had much less regulatory pressure during the study period than it currently does. Financial policymakers were preoccupied with fiscal crises and the transition to gold-backed currency and gave banking only intermittent attention, and the Ministry of Finance supervised so many banks that it was unable to perform even the periodic account inspections stipulated by the banking laws (Tamaki 1995). Corporate groupings were less important in those days than they are now. Five large banks emerged early, and three of these belonged to a group of financial, industrial, and trading firms from the start (Mitsui, Mitsubishi, Sumitomo), while two, Dai-ichi and Yasuda, started as banks and gradually built up other business interests (Tamaki 1995). Of these, Yasuda was a pioneer in branching among the large banks and the only one to contribute a significant number of events to this study (35 branches founded). The early adopters of branch banking were smaller local banks such as Tokyo Savings Bank and Kawasaki Hundredth Bank,¹ whose lack of governmental or intergroup loans as a source of funding made an early entry into the small deposit market necessary.

The data on banks and branches in Tokyo were collected from the annual *Census of Banks* published by the Ministry of Finance. This publication is based on mandatory annual reports of each bank's operations, and its precision has made it a frequently used source for research (Han 1998; Patrick 1967; Tamaki 1995). It shows the location of bank headquarters and branches, and comparison of successive volumes yields entries. Full addresses were given, so each branch could be traced even when a bank had multiple branches in one ward or county. The addresses consist of the ward (or county), town (or village), and neighborhood (*chome*). Modern Japanese addresses use the same system but add numbers designating the block and house. In the rare cases where a bank had more than one branch in a neighborhood, the branches had distinctive names or numbers. Location data were nearly always given, but three branches had incomplete addresses and were omitted from the analysis. Although the addresses of the

branches are given, their exact location cannot be easily plotted since the naming of neighborhoods changed after the war (indeed, many street plans changed when the city was rebuilt). Further disaggregation of the data (along the lines of Baum & Mezias 1997) is thus not possible.

Data on the population of the wards and counties of metropolitan Tokyo were collected from statistics published by the Tokyo metropolitan government, mostly in the *Tokyo Statistical Yearbook*. The population data were assembled from the family registration records kept in local government offices. This system requires each family to maintain a registration record of its members at the local government office. The registration data were accumulated annually, giving reports of the population in the fifteen wards every year (with a couple of interruptions) since the start of the study, and this source and others could be combined to yield the population of the counties for 32 of the 41 study years. The population numbers for missing years were interpolated by keeping the proportions of Tokyo's total population equal to that of the nearest reported year.

The geographical structure of metropolitan Tokyo is shown in historical maps (Tokyo Metropolitan Government 1955). A proximity matrix of areas was coded to show which areas (*ku/gun*) were adjacent to which others. Distances between locations in Tokyo, and hence adjacency of areas, were important because the transportation system was at first quite spotty. It improved by the establishment of train and streetcar routes that linked most of the fifteen wards to each other by 1914 and later linked the counties to the adjacent wards and to each other (Tokyo Metropolitan Government 1955; Tokyo Municipal Government 1914). Public transportation allowed wage earners to commute to work, weakening the earlier strong link between settlement and business activity (Tokyo Metropolitan Government 1955). Public transportation was expensive, however, and in 1906 an announced fare increase in the streetcar system led to public protests, the largest of which ended in a riot in which ten streetcars were attacked and burned (Tokyo Metropolitan Government 1955). Clearly, the population was mobile and could seek banking services outside its residential area, but transportation costs created a potential advantage to locating in areas with few competing banks and branches.

Figure 1 shows a map of Tokyo with the boundaries and names of the fifteen wards and five counties. The areas were arranged roughly in three concentric circles, with four central wards, eleven peripheral wards, and five counties. Southeast (between areas 16 and 20) is the Tokyo bay, southwest (next to area 16) is the city Kawasaki, and all other directions were sparsely populated outside this area. The outer rim of the counties was also sparsely populated, but the inner rim had a high population density. Nihonbashi was the central financial district containing many bank headquarters and the Bank of Japan and Ministry of Finance.

The two events analyzed are the entry of a bank head office or a branch, and the unit at risk of having an event is an area (ward or county). Banks occasionally moved their head offices, so entry of a bank head office also includes banks that

FIGURE 1: Tokyo Wards and Counties



- | | | |
|---------------|----------------|-----------------------|
| 1. Kojimachi | 8. Yotsuya | 15. Fukagawa |
| 2. Kyobashi | 9. Ushigome | 16. Ebara |
| 3. Nihonbashi | 10. Koishikawa | 17. Toyotama |
| 4. Kanda | 11. Hongo | 18. Kita-Toshima |
| 5. Shiba | 12. Shitaya | 19. Minami Adachi |
| 6. Azabu | 13. Asakusa | 20. Minami Katsushika |
| 7. Akasaka | 14. Honjo | |

Source: H.R. Greve, "Market Niche Entry Decisions: Competition, Learning, and Strategy in Tokyo Banking, 1894-1936," *Academy of Management Journal* 43 (Oct. 2000): 816-36. Used by permission.

move into the area from another area in Tokyo or from outside Tokyo. A potential source of overcounting of entry events was when mergers of banks caused the branches and head office of the premerger banks to appear as branches of the merged bank. These were eliminated from the entry events by comparing the addresses of

the offices of the premerger banks and the new offices of the merged bank. Banks and branches destroyed in the 1923 earthquake and rebuilt in the same place are not counted as entry events. During this period, 542 bank and 1,122 branch entries occurred, which equals an average of .66 bank and 1.37 branch events for each of the 820 observations (20 areas times 41 years) in the data.

The independent variables are densities of different forms of bank offices in each area, which are calculated by counting all banks and branches operating per area per year. All independent variables are lagged by a year. Local bank density counts all banks in the area, and local branch density counts all branches in the area. These are entered as linear and squared (divided by 100 for scaling) terms. Neighbor density is the sum density of the areas adjacent to the focal area (see Figure 1), which is entered as linear and squared (divided by 100) terms (Wade, Swaminathan & Saxon 1998).

The first control variable is the population of each area, which shows the number of potential customers. Two variables are entered to control for the distance from Tokyo's center, one indicating that the area was a peripheral ward and the other indicating that it was a county. To control for organizational activity in the area, the number of headquarters of nonbank corporations in the area was included. This variable was obtained from the Tokyo City Statistical Yearbook and contains data on all wards but not counties. To avoid losing observations, data values for the counties were filled in by .75 times the average value for the wards, which is a likely (but rough) estimate of the true number since the counties were less active commercially than the wards. The multipliers .5 and 1 were also tried, and the specific value was found to have little effect on the estimates of the density covariates. An indicator variable was entered for the areas constituting Shitamachi (the low city), a commercially active area in the east (Seidensticker 1985). The sum population of the neighboring areas and the number of neighboring areas were also entered.

Method

Organizational founding is a count process, which is normally modeled by a statistical distribution in the Poisson family. The simple Poisson distribution is not used here, however, since its assumption of an equal mean and standard deviation is restrictive. Instead, the negative binomial model is specified, as it allows the estimated standard deviation to differ from the estimated mean (Baum & Singh 1994; Land, Davis & Blau 1994; Ranger-Moore, Banaszak-Holl & Hannan 1991). The model also specifies fixed effects for each year. This is done to factor out time-related influences on founding rates, so that the estimated coefficients reflect only cross-sectional differences within each year. Though it would be possible to account for the changes in economic and legal conditions by simpler means such as period

indicator variables, the fixed-effect approach is better when the hypotheses concern cross-sectional differences in founding rates among areas, because in such an analysis it is important to eliminate any time-related contamination of the coefficient estimates. Thus the conditional negative binomial (Hausman, Hall & Griliches 1984) is estimated using Stata 7.0 (StataCorp 2001). The models contain no variables that change over time but are the same across areas (e.g., national economic conditions or the density of banks in Tokyo), as the coefficients of such variables are not identified when annual fixed effects are present.

Since recent studies have used different methods to analyze founding rates in multiple regions, a brief comparison is useful. The main difference between this study and others is that this study uses the strongest controls (through fixed effects) for temporal differences in founding rates, while others have used the strongest controls for regional differences in founding rates (Hannan et al. 1995; Lomi 1995; Wade, Swaminathan & Saxon 1998). This change is done to move regional differences to the center of the analysis, so instead of controlling for region and investigating temporal effects we control for time and investigate the regional effect. Other differences are in whether neighbor effects are estimated and in whether the density coefficients are constrained to be the same in each region or not. Neighbor effects are rare in regional founding studies (but see Wade, Swaminathan & Saxon 1998), since they have not been made the focus of the theory yet. Arguably, other studies have had less reason to specify neighbor effects since the regions studied were large or legally separated (Hannan et al. 1995; Lomi 1995). The coefficients of the density-dependent covariates are generally constrained to be the same across regions (Lomi 1995; Wade, Swaminathan & Saxon 1998), as in this study, except when the regions are nations or states whose differences in legal systems and supplier structures justify different density effects in each region (Hannan et al. 1995). Such differences are unlikely in these small subcity areas.

The theories imply multiple hypothesis tests. Support for spatial competition requires that the density coefficients show a monotonically decreasing relation from density to founding rate over the observed range of the density. Support for spatial contagion requires that the density coefficients show a monotonically increasing relation from density to founding rate over the observed range of the density. Support for spatial density dependence requires that the density have an inverted-U-shaped relation with performance within the observed range: initially it increases the founding rate but then it reaches an inflection point and decreases the founding rate thereafter. The predictions from the theories are clearly opposed — at most one of these theories can be supported, but it is possible for no theory to be supported. The following hypothesis tests are made: First, ordinary *z*-tests of whether the linear and squared coefficients are different from zero are used to check whether the density has a significant effect on the founding rate, as hypotheses 1a-b, 2a-b, and 3a-b require. Second, Wald tests of equality of the local and neighbor density coefficients are used to test whether local density has a greater effect than neighbor

density, as hypotheses 1c, 2c, and 3c require. Finally, the joint distribution of the linear and squared term of density is used to compute a confidence interval for the inflection point (Weesie 2001a) and to check whether it is inside the observed range of the variables, as hypotheses 3a-b require. This confidence interval could turn out to be outside the observed range, which would support one of the other hypotheses, or to overlap with a part of the observed range, which would make the test inconclusive. Work on density dependence usually does not compute a confidence interval of the inflection point, so the present procedure is a stricter test than the usual.

Results

Figures 2a-b illustrate the growth of branch banking in Tokyo during the study period. Each line in the graph is the number of branches in one of the three rings of areas: central wards, peripheral wards, and counties. As Figure 2a shows, the central wards had most of the branches in Tokyo in 1894 (most of those in Nihonbashi). Even so, in the central wards the number of branches increased until 1924, and then declined. The peripheral wards showed the greatest growth in branches, going from fewer than 10 in 1894 to about 120 in 1920. The counties had a slow growth of branches and never caught up with the wards. The distribution of branches showed some sign of becoming less centralized, as there were many entries in peripheral wards, but the counties still had few branches at the end of the study. Figure 2b relates the number of branches to the population basis by graphing the number of branches per 100,000 persons in these areas. It shows the disparity even more clearly, as the highest branching density was in the center, while the populous counties had very few branches. The increase in branches in the peripheral wards is less impressive in this figure, as it just balances the population increase in these wards. The spike in branches per persons in 1924 is a denominator effect: the deaths and dislocations caused by the 1923 earthquake reduced the number of people in the central wards. Figures 3a-b show the evolution of bank main offices during the same period. They show an even more centralized distribution, as the peripheral wards never caught up with the center. They also show a decrease in the number of banks during the last decade of the study, which reflects the nationwide decrease in the number of banks caused by mergers and failures (Han 1998).

Table 1 shows the estimates of bank headquarters entry. Only estimates of the theoretically important coefficients are shown; estimates of the coefficients for the control variables are given in the appendix. Model 1 is specified according to the monotonic effects predicted by spatial contagion and competition perspectives and thus omits all squared terms. This model shows positive effects of the local density, but not of the neighboring area density, so it supports hypothesis 2a (and contradicts

FIGURE 2A: Number of Branches

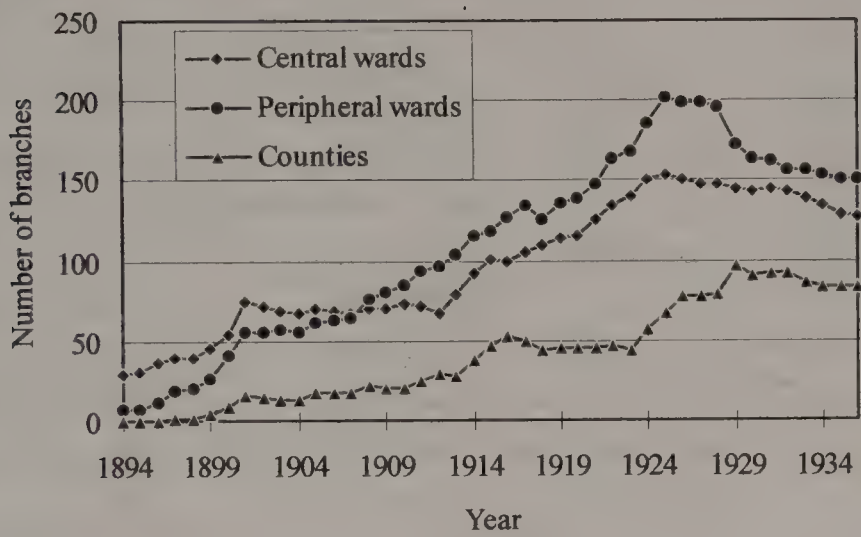
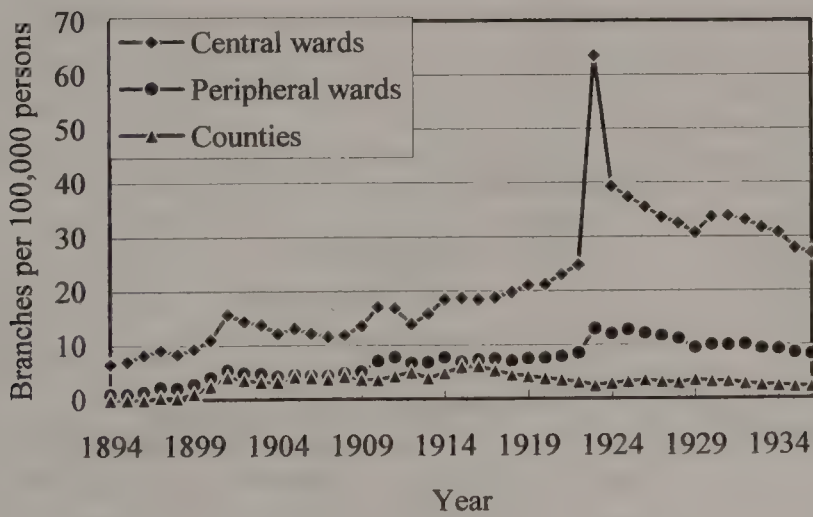


FIGURE 2B: Branches per 100,000 Persons



hypothesis 1a). The effect of neighbor density is significantly weaker than that of local density, which is consistent with hypothesis 2c. The findings favor spatial contagion over spatial competition. Model 2 is designed to test density dependence and also includes the squared terms. It shows an inverse U-shaped effect of local density on bank entry, and the inflection point has a confidence interval within

FIGURE 3A: Number of Banks

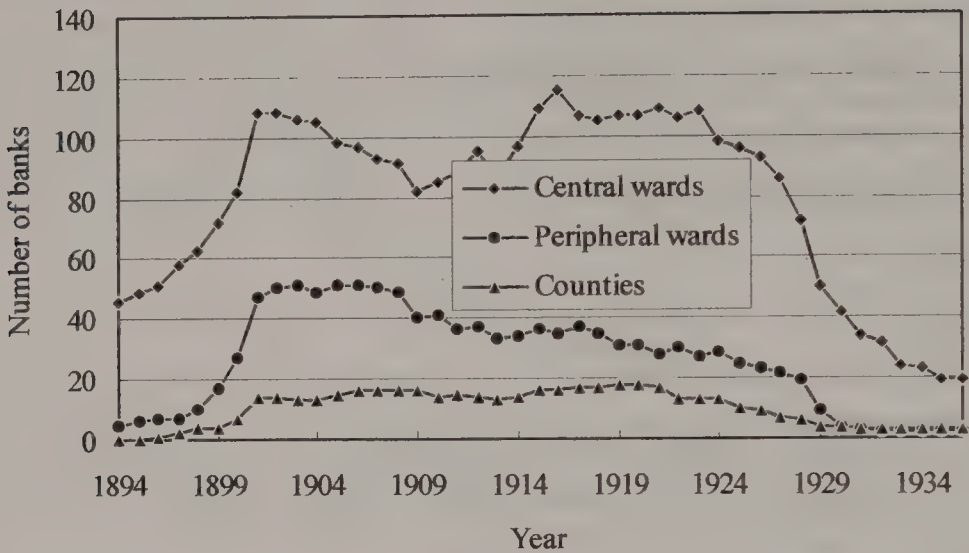
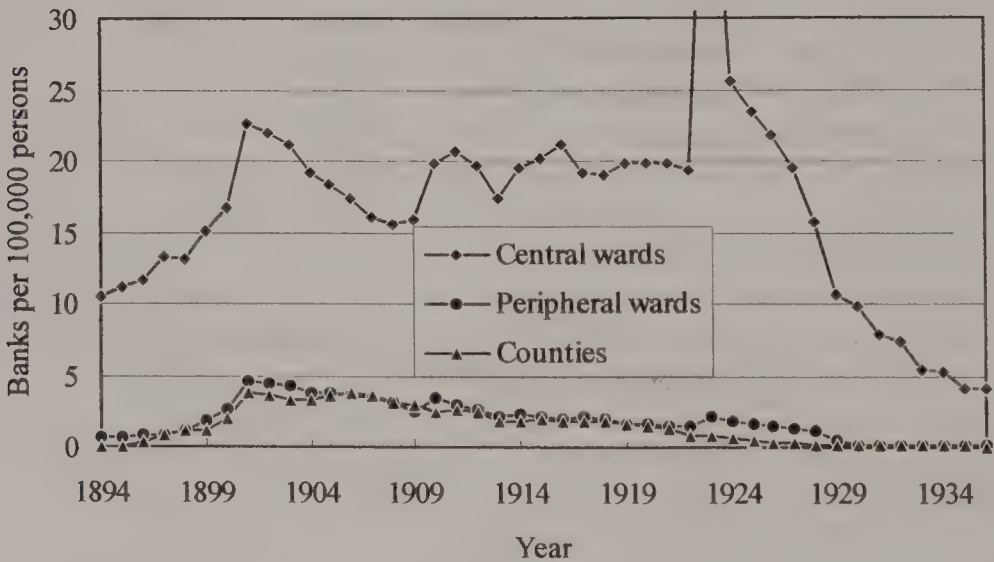


FIGURE 3B: Banks per 100,000 Persons



the observed range of the density, thus indicating support of local density dependence (hypothesis 3a). It also shows an inverse U-shaped effect of neighbor density, with an inflection point and confidence interval inside the observed range, but the insignificance of the coefficients suggests that this effect is weak. The neighbor effect is weaker than the local effect, in support of hypothesis 3c. The

TABLE 1: Negative Binomial Models of Bank Headquarters Entry

	Model 1	Model 2	Model 3
Area bank density	.033** (.009)	.099** (.021)	.098** (.019)
Neighbor bank density	.003 (.005)	.019 (.012)	.023* (.009)
Area bank density ²		-.108** (.032)	-.098** (.026)
Neighbor bank density ²		-.014 (.009)	-.016* (.008)
Area branch density	-.002 (.007)	.004 (.014)	
Neighbor branch density	-.000 (.004)	.003 (.011)	
Area branch density ²		.003 (.014)	
Neighbor branch density ²		-.001 (.004)	
Tests of coefficient equality ^a			
Bank = neighbor bank	10.95**	15.48**	16.42**
Bank ² = neighbor bank ²		9.15**	10.08**
Branch = neighbor branch	.08	.00	
Branch ² = neighbor branch ²		.10	
Inflection points ^b			
Bank [0, 66]		46.05* (6.28)	50.48* (4.93)
Neighbor bank [0, 120]		66.34* (22.93)	68.28* (12.29)
Log-likelihood	-526.59	-517.89	-518.50
Log-likelihood test against null model	46.05**	63.45**	62.23**
Degrees of freedom	4	8	4

Note: Fixed effects for years are entered.

^a Wald tests, distributed as a chi-square with 1 degree of freedom.

^b The observed range of each variable is given in brackets. An asterisk indicates that the 95% coefficient interval is inside the observed range.

[†] $p < .10$ * $p < .05$ ** $p < .01$ (two-sided tests)

findings favor local density dependence but suggest a limited spatial reach of density dependent effects. The model shows no effect of branch density on the bank entry rate. Model 3 is a parsimonious model with the insignificant variables on branch density removed. It has higher significance levels for the bank variables, and in

this model the neighbor density dependence is significant, but still significantly weaker than the local density dependence. The inflection points of both local and neighbor density are within the observed range. Thus, model 3 supports all predictions from spatial density dependence theory.

Table 2 shows the analyses of branch entry in each area. The models are specified as in Table 1, with model 1 having only linear effects. The results are very similar to those in model 1 of Table 1, since there is a contagion effect locally from the same organizational form, supporting hypothesis 2a, but none from the other organizational form. There is no evidence of neighbor contagion, and the neighbor branch coefficient is significantly smaller than the local coefficient. Model 2 adds quadratic densities and gives positive linear terms and negative squared terms for local and neighbor banks and local branches. For bank local and neighbor density, the significant first- and second-order terms and inflection points inside the observed range show support for density dependence hypotheses 3a-b. These effects are approximately equally strong, however, so hypothesis 3c is not supported. For branches, the linear and squared terms are as predicted by density dependence and the inflection point is inside the observed range. The confidence interval extends beyond the observed range, however, so this model cannot adjudicate between hypothesis 2a (contagion) and hypothesis 3a (density dependence). There is no evidence of neighbor influence for branches. The parsimonious model 3 has the same findings as model 2 — spatial density dependent influence from banks and contagious influence (which may turn competitive) from local branches.

A figure helps discern the strength of these different effects. Figure 3 illustrates the most important effects of model 3 for banks and branches separately. As the hypothesis tests suggested, the strongest effect is that of density dependence within the same organizational form and the same area. This effect increases the multiplier to over 7 for branches and over 11 for banks and peaks within the observed range of these variables (all curves cover the observed range only, so the figure does not employ extrapolation). For both organizational forms, the neighbor effects are weaker but do show an inflection point within the observed range. For branches, a density-dependent effect from banks inside the local area was also seen. This effect was weaker than the density-dependent effect of branches, but it turned competitive earlier.

The relative strength of these different effects explains why the original functional differentiation persisted in spite of the seemingly clear opportunities for entering the open niches in the peripheral wards and in the counties. There was a legitimating effect from neighboring populations, which would have helped disperse the population of banks and branches if it had been strong, but this effect was weak compared with the local density dependence. The greatest increase in the founding rate due to neighbor effects was a doubling, while the greatest increase in the founding rate due to local effects was an elevenfold increase. Clearly, what mattered

TABLE 2: Negative Binomial Models of Branch Entry

	Model 1	Model 2	Model 3
Area bank density	.008 (.007)	.046** (.016)	.044** (.016)
Neighbor bank density	.006 (.004)	.023** (.029)	.024** (.009)
Area bank density ²		-.064** (.024)	-.059* (.023)
Neighbor bank density ²		-.020** (.009)	-.018* (.008)
Area branch density	.018** (.005)	.052** (.011)	.051** (.011)
Neighbor branch density	-.001 (.003)	-.008 (.006)	
Area branch density ²		-.036** (.011)	-.037** (.010)
Neighbor branch density ²		.002 (.002)	
Tests of coefficient equality ^a			
Bank = neighbor bank	.06	.86	1.33
Bank ² = neighbor bank ²		3.44 [†]	3.05 [†]
Branch = neighbor branch	9.35**	24.04**	
Branch ² = neighbor branch ²		13.41**	
Inflection points ^b			
Bank [0, 66]		35.62* (6.05)	37.08* (6.63)
Neighbor bank [0, 120]		73.87* (12.24)	66.07* (9.45)
Branch [0, 82]		70.92 (11.18)	68.80 (10.18)
Log-likelihood	-985.97	-968.92	-970.07
Log-likelihood test against null model	48.17**	82.26**	79.96**
Degrees of freedom	4	8	6

Note: Fixed effects for years are entered.

^a Wald tests, distributed as a chi-square with 1 degree of freedom.

^b The observed range of each variable is given in brackets. An asterisk indicates that the 95% coefficient interval is inside the observed range.

[†] $p < .10$ * $p < .05$ ** $p < .01$ (two-sided tests)

FIGURE 4A: Multiplier Effects on Branch Entry

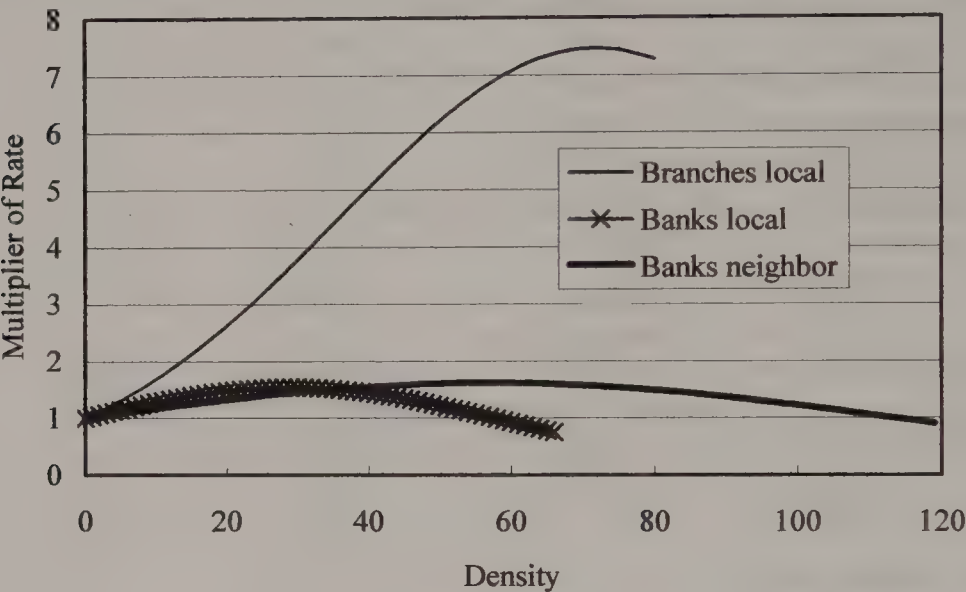
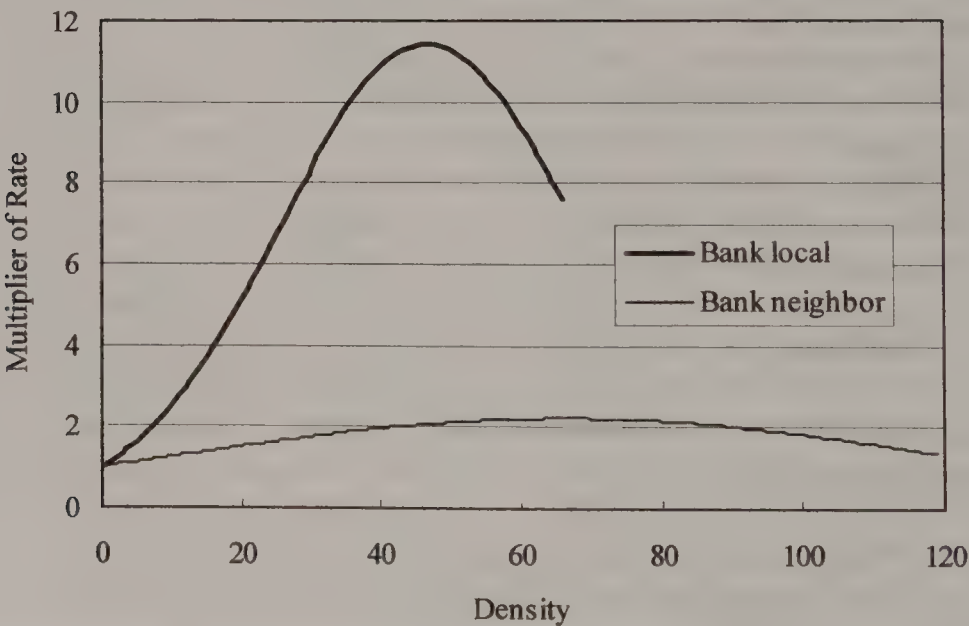


FIGURE 4B: Multiplier Effects on Bank Entry



to the evolution of the population within each local area was the local density, and this effect allowed the areas with an early lead to maintain their dominance.

The models in Tables 1 and 2 assumed that the areas were equivalent, allowing pooling of the data, but the different level of development of the wards and the counties could be used to argue that the counties might show different effects of

density than the wards. The high density in Nihonbashi similarly suggests that this observation is disproportionately influential in the analysis. There is insufficient data to address this concern by analyzing counties alone or Nihonbashi alone, but the reverse approach of analyzing the data *except* the counties or Nihonbashi is possible. Differences in the coefficients when these observations are dropped might indicate contextual differences or a theoretically important distinction between developed and developing areas. Table 3 conducts such analyses using model 3 of the bank and branch entry analyses.

The findings on banks show that excluding the periphery has only trivial effects on the results, but excluding Nihonbashi gives a much lower value for the inflection point for banks. Thus, Nihonbashi seems to be an influential observation with effects contrary to density dependence. Excluding Nihonbashi has the same effect on branches; the inflection point of the bank density is greatly reduced. These changes might occur because Nihonbashi enters the data with many left-censored observations, which weakens tests for density dependence (Hannan & Carroll 1992). Excluding the counties from the analysis on branches makes the effect of bank density on the entry rate insignificant. This could suggest that banks have legitimating effects on branches in less developed areas only, but the higher correlation of bank and branch densities in this restricted data set is also a possible reason.

To verify that a specification using linear and squared terms for density was appropriate, a curve-fitting analysis of the effect of density on the founding rates was also conducted. This analysis was based on model 3 but replaced linear and squared density coefficients with a flexible four-segment quadratic spline specification (Seber & Wild 1989; Weesie 2001b). This analysis can give several kinds of irregular curves that would contradict the hypothesized relations, but it showed curves consistent with the linear and squared terms specification of the main analysis for all densities except for the neighbor bank density effect on bank founding, which showed an unexpected increase in the top of the range. Two of these curves are of particular interest because they show a clear contradiction and confirmation of the density dependence hypothesis, respectively. Figure 4a shows the effect of bank density on the bank entry rate, which has an initial increase that reaches a plateau at 12 banks. This is consistent with spatial contagion but not with density dependence. From this curve it appears that the legitimacy is constant in the range above 12 banks, but competition never sets in. Figure 4b shows a remarkable fit with the density dependence hypothesis for the effect of branches on branch entry. Here, the estimated curve is an inverted U even though the functional form makes no such restriction (it allows oddities such as camel hump curves). Although it is difficult to draw strong conclusions based on curve-fitting analysis unless the data are richer than these, the analysis here seems to strengthen the conclusion that density dependence influenced branch entry but to suggest that bank entry mainly followed a contagion process.

TABLE 3: Negative Binomial Models of Entry Rates, Some Areas Excluded

	Bank		Branch	
	Periphery Excluded	Center Excluded	Periphery Excluded	Center Excluded
Area bank density	.082** (.021)	.175** (.036)	.015 (.014)	.055† (.031)
Area bank density ²	-.082** (.021)	-.362** (.097)	-.021 (.021)	-.191† (.118)
Neighbor bank density	.013 (.011)	.017 (.012)	.002 (.008)	.043** (.009)
Neighbor bank density ²	-.011 (.009)	-.013 (.009)	-.003 (.007)	-.031** (.008)
Area branch density			.045** (.011)	.033 (.025)
Area branch density ²			-.039** (.010)	.047 (.072)
Tests of coefficient equality ^a				
Bank = neighbor bank	12.62**	15.10**	.75	.11
Bank ² = neighbor bank ²	7.11**	12.44**	.74	1.77
Inflection points ^b				
Bank [0, 66]	52.08 (7.33)	24.22* (3.09)	36.98 (15.85)	14.41* (4.04)
Neighbor bank [0, 120]	59.08* (16.86)	67.93* (16.61)	37.44 (53.58)	69.33* (5.94)
Branch [0, 82]			57.68* (7.15)	35.95 (31.87)
Log-likelihood	-424.39	-448.78	-701.02	-871.53

Note: Fixed effects for years are entered.

^a Wald tests, distributed as a chi-square with 1 degree of freedom.

^b The observed range of each variable is given in brackets. An asterisk indicates that the 95% coefficient interval is inside the observed range.

† $p < .10$ * $p < .05$ ** $p < .01$ (two-sided tests)

Discussion

The findings in this article show that density dependence operated locally within small areas and spilled over from neighboring areas. Thus, they support and extend prior treatments of multilevel density dependence and neighbor competition (Baum & Haveman 1997; Sorenson & Audia 2000; Swaminathan & Wiedenmayer 1991; Wade, Swaminathan & Saxon 1998). Since these findings were obtained in

FIGURE 5A: Flexible Estimate of Bank Effect on Bank Entry

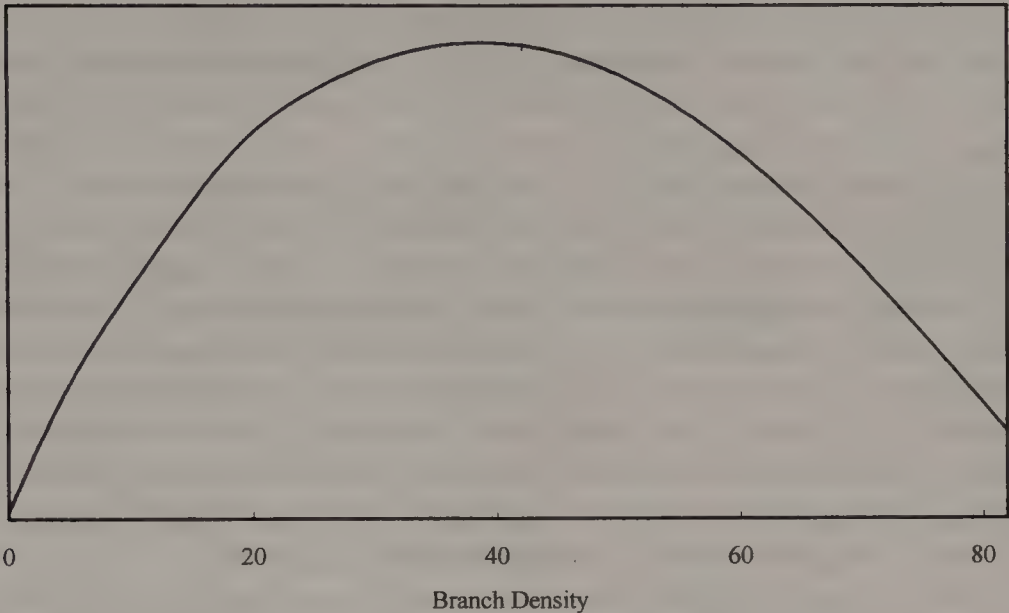
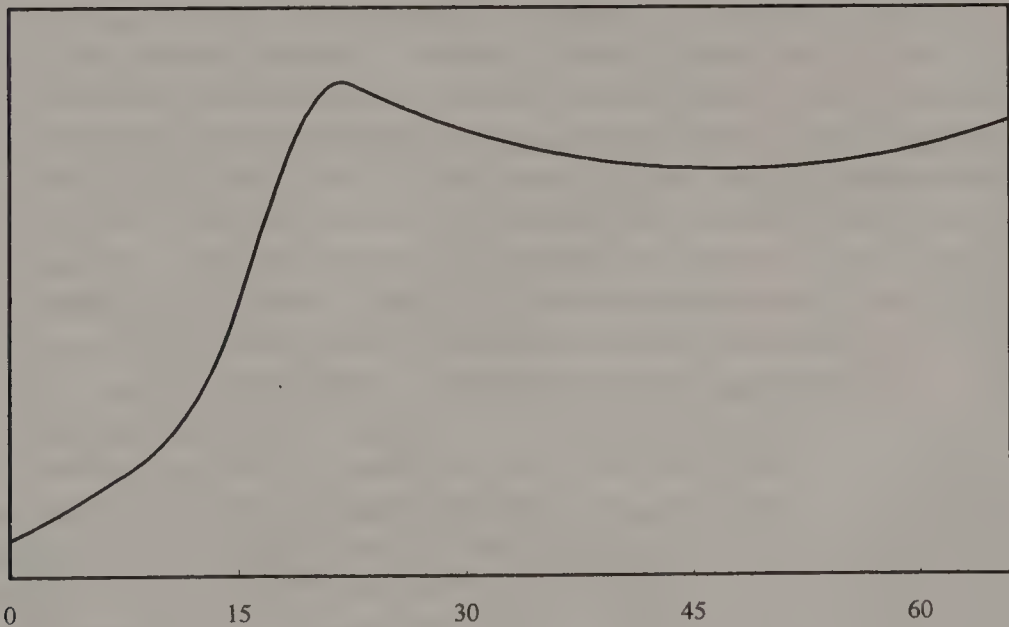


FIGURE 5B: Flexible Estimate of Branch Effect on Branch Entry



an analysis of spatial location of foundings, with fixed effect controls for the temporal changes in density and all other population-level covariates, they clearly show that organizational founding rates differ across areas depending on the local density. The attractiveness of areas to organizations depends largely on how early the local density becomes high enough to spur local legitimization processes.

These findings suggest a promising new application of ecological theory to the study of spatial distributions of organizations. This is an important research area for organizational scholars to participate in, as it has long been dominated by scholars who equate spatial concentration with spatial advantages. The resulting theories of how spatial concentrations such as regional industrial clusters are beneficial for participating organizations may be accurate (Porter 1990), but they do not explain the origin of such clusters since it is unclear whether the current advantages were present early in the evolution. Similar to the question "Of what use is one-half of a wing?" true evolutionary theory needs to separate the origin of a population structure from its current function. This article argues that spatial legitimation and competition tend to produce spatially concentrated organizational populations regardless of whether they later turn out to be advantageous or not. For this population, spatial concentration of bank headquarters may have some advantages, since financial centers include banking activities (such as loan consortia) that require close coordination among banks. It is difficult to see any advantage of concentrating branches, since they are pure retail organizations whose competitive relations are stronger the closer they are spatially.

A practical implication of these findings is to underscore the importance of the early entry locations on the subsequent spatial structure of an industry. Early Tokyo banking showed some tendency of spreading out from its starting point, but there was no evidence that the dominance of the center was waning. If similar processes occur elsewhere, then geographical areas with an early lead in one industry may keep that lead by outfounding later entrants. Initial differences in organizational founding rates can be amplified over time and lead to center-periphery structures in organizational populations. Such a development might happen purely because of the founding patterns studied here and would be stable if collocation advantages existed. This means that it is difficult to govern the growth of new industries, since the most important events take place before the industry has reached a size that will attract the attention of policymakers. Once a location pattern is supported by local density dependence, it is difficult to create policies to disperse or move the industry (if desired) that would not also weaken it.

There are rich opportunities for further theoretical and empirical advances. An interesting feature of organizational founding research is the importance of the population boundary for the theory and the practical difficulties in defining it (Lomi 1995). It has been argued that one should not expect easy delineation of population boundaries since boundaries around organizational populations are permeable and subject to some degree of blending (Hannan & Freeman 1989). The theory of local density dependence as a result of spatial gradients of communication and competition takes this one step further by suggesting that populations and subpopulations can be defined at multiple regional levels, with density dependence occurring within each level and neighbor effects occurring when the regions are small. How these local patterns intermesh to form the total population density

dependence is an important theoretical and empirical question (Lomi & Larsen 1996). A guide to developing such theory may be found by noting that the bank population of Tokyo as a whole has been shown to have density dependent founding, and so has the populations of banks in the Japanese prefectures (Han 1998). Thus, when a population with density dependent founding is disaggregated, local density dependence is found in each part, and neighbor effects between the parts also seem likely.

Clearer understanding of how local and nonlocal density dependence interact may also require theory and research on the spatial range of competition and contagion. One path forward would be to revisit the early advances of the human ecologists in measuring spatial gradients of communication and transportation (Hawley 1950), as this research gives important insights into how the micro-processes driving competition and contagion differ across contexts. Another path is to continue studies that examine the aggregate consequences of these processes, such as the founding and failure of firms. These approaches are complementary, as insights from micro research can be used to improve macro research designs, and findings from macro research can show the consequences of the micro processes.

A central finding from micro work is the strong effect of transportation structures on human mobility and social contact as well as on the exchange of goods (Hawley 1950). This insight can be used to derive boundary conditions for when competition and contagion will be more localized, as greater costs of mobility should lead to more localized competition and contagion. The result is narrower boundaries for populations and weaker neighbor effects among subpopulations. This suggestion hinges on the assumption that contagion follows interpersonal networks, which seems likely when organizational forms or technologies are introduced and thus are associated with considerable uncertainty. For more mature organizational forms, contagion may instead follow impersonal routes, resulting in a greater spatial range. It follows that the contagion part of neighbor interaction theory applies primarily to situations where an organizational form is relatively new, but for more mature organizational forms it should be supplemented by theory of nonlocal influences.

Another promising research agenda is to trace how regional differences affect the competitive strength of organizations in each area. Such work requires study of organizational failure within small regions in order to see whether organizational concentrations are held together by the competitive advantages supposed by agglomeration theory or purely by the uneven founding processes predicted by local density dependence. Other research opportunities would be to investigate the linkages between founding location and other causal forces such as price and product differentiation (Baum & Haveman 1997) and the consequences of local firm founding and failure on individual careers (Carroll & Hannan 2000; Fujiwara-Greve & Greve 2000; Haveman & Cohen 1994). Spatial location is caused by

organizational evolutionary processes and in turn shapes the competition of organizations and the opportunities of their workers and customers. Location is an important crossroads between theoretical processes of interest to organizational scholars, and it should be investigated further.

Note

1. The numbers in Kawasaki Hundredth Bank and Dai-Ichi (which means First) reveal their national bank origins. Tokyo Savings Bank was a savings bank, and the other banks were ordinary banks. The laws governing these forms of banks were initially different, but in 1894 the savings bank and ordinary bank laws were made similar except for smaller minimum capital requirements for savings banks, and from 1896 national banks had to convert to ordinary bank status (Tamaki 1995).

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APPENDIX: Control Variables for Model 3

	Bank Entry	Branch Entry
Area population	.229** (.089)	.155** (.038)
Peripheral ward	-.452 [†] (.278)	.228 (.234)
County	-.869* (.391)	.278 (.302)
Headquarter density	-.0005 (.0007)	.0005 (.0005)
Shitamachi	-.440* (.218)	-.200 (.149)
Neighbor population	-.388* (.157)	-.193* (.092)
Number of neighboring areas	-.005 (.041)*	.002 (.031)

[†] p < .10 * p < .05 ** p < .01 (two-sided tests)

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Western Europe and its Islam

The Social Reaction to the Institutionalization of a 'New' Religion in the Netherlands, Belgium and the United Kingdom

Jan Rath, Rinus Penninx, Kees Groenendijk and Astrid Meyer

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Immigration from North Africa, Asia and elsewhere meant a large influx of Islam into Western Europe. In each country, Muslims organized in various ways and established numerous institutions such as mosques, cemeteries, *halâl* butchers, schools, broadcasting organizations, and political parties, and slowly but surely the outlines of Muslim communities begun to emerge. The development of those communities is not a matter of Muslims only, but the product of their interaction with the wider environment. The development of the process of institutionalization is the result of their consultations and conflicts with parties involved, particularly with agents from the host society. As Muslim immigrants become ever more a part of Western European societies, the establishment of their institutions both illustrates and affects the processes of sociological, political and legal change that are currently taking place. This book, based on interdisciplinary research, examines the establishment of Muslim institutions in Western Europe, and particularly focuses on the role played by agents from the host society and the political and ideological positions adopted by them in reaction to claims from Muslims.

Readership: The book is of interest to both scholars of cultural anthropology, political science, the sociology of law, the sociology of migration, the sociology of social movements, ethnic studies, religious studies, and urban studies, as well as to practitioners such as politicians, civil servants and ethnic and religious leaders in the field.

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B R I L L

The Social Influences on the Realization of Genetic Potential for Intellectual Development*

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Abstract

Much of sociological analysis is devoted to assessing the relative importance of ascribed and achieved characteristics for social mobility. In this article, we extend this line of sociological work by focusing on children's differential opportunity to achieve their genetic potential for intellectual development. We hypothesize that the extent to which a child realizes his or her genetic potential depends on socioeconomic environment. Using a large sibling sample collected by the National Longitudinal Study of Adolescent Health, we test this hypothesis with a variant of the Peabody Picture Vocabulary Test (PPVT) as the dependent variable. When measures of social environment are considered simultaneously, parental unemployment and ethnicity have a significant effect on the extent to which genetic potential for intellectual development is realized. Our findings suggest that policymakers can help children in disadvantaged environments realize full genetic potential for intellectual development by altering their social circumstances.

Throughout sociology's relatively short history, sociologists have always cared, often passionately, about the issue of social inequality or social stratification (see Grusky 1994 for a review). Like most Americans, however, sociologists draw a distinction between inequality of outcomes and inequality of opportunity for obtaining these outcomes. Most Americans appear much more willing to tolerate inequality of

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outcomes than inequality of opportunity (Hochschild 1981; Kluegel & Smith 1986). Sociologists do not appear to be much different. They have devoted most of their energy to the description and study of inequality of opportunity for social mobility.

Using a variety of methods, social mobility researchers have examined the absolute and relative rates of mobility within different societies. For example, Lipset and Bendix (1959) argued that social mobility increases as societies industrialize from agricultural bases due to structural change. As Lipset and Bendix posited, social mobility increases in industrializing societies for several reasons, including the increasing number of white-collar jobs available and legal guarantees of freedom of occupational choice. Later revisions of their thesis pointed out the necessity of examining relative rates of mobility, or the relative chances of attaining particular positions in the occupational structure for individuals with different natal social statuses (Ganzeboom, Treiman & Ultee 1991).

Although they were not the first to investigate status attainment, Blau and Duncan (1967) advanced the field in their 1967 seminal work, *The American Occupational Structure*. They recast the study of social mobility as the study of the process through which inequality is reproduced over generations. Using path models, Blau and Duncan concluded that the male respondents' own education had a larger direct effect on occupational attainment than did father's occupation. In addition, most of the effect of education was found to be independent of social origins. Among its other contributions, this work established education as an important determinant of social mobility.

In subsequent years, other sociologists, most notably those of the Wisconsin school, added factors such as gender, educational and occupational aspirations, significant others' influence (Sewell, Hauser & Wolf 1980), grandparents' status (Warren & Hauser 1997), and status of job contacts (Lin, Vaughn & Ensel 1981) to the basic model that Blau and Duncan had earlier formulated. Although they each revise the model in some way, the importance of education for social mobility has been repeatedly confirmed.

As illustrated above, social mobility researchers have made major efforts to separate out the relative contributions of "ascribed" and "achieved" characteristics to one's mobility chances. Ascribed characteristics including parental wealth, parental education, sex, and race are fixed at birth and are by and large immutable. Influences of ascriptive characteristics on individuals' social standing are usually considered indicators of unfairness or discrimination. In an ideally just society, an individual's social status should be acquired predominantly by personal achievements rather than by ascriptive characteristics such as parental wealth or race. Some of the scholars of status attainment (e.g., Blau & Duncan 1967; Lipset & Bendix 1959) believe that industrialization reduces the importance of ascription in status attainment and leads to an emphasis on achievement. Recognizing that the ascriptive processes had not declined as much in American society as he and

Duncan had anticipated in the late 1960s, Blau (1992) became less optimistic about the anticipated universalism towards achievement processes.

Like that of previous social mobility research, our objective in this article is to describe, in Grusky's (1994) word, the "contours" of social mobility chances. We choose intellectual development as an outcome, which has been shown to be a crucial mobility mechanism linking individuals to eventual occupational attainment. Unlike previous research, however, our approach is novel. We focus on genetic potential for intellectual development and, especially, its interactions with environmental factors rather than the conventional ascriptive characteristics and other individual and family characteristics. We test the hypothesis that the levels of realized genetic potential for intellectual development in disadvantaged groups are lower than those of advantaged groups. We define genetic potential for intellectual development as innate mental ability. At birth, each child has a genetic potential for intellectual development; but their chances of attaining, or achieving, their potential are conditioned by environmental factors. If achieved intellectual development is only due to genetic potential and the opportunities for developing such potential, unrealized potential for one group of children would imply inadequate opportunities for the same group. Evidence that low-SES children tend not to realize their genetic potential would imply that these children do not have full equality of opportunity to achieve their intellectual potential.

We distinguish *level* of genetic potential for intellectual development from *realization* of genetic potential for intellectual development. This distinction is important. The underprivileged children may or may not have lower levels of genetic potential for intellectual development. Even if they did, our argument would still hold. Our basic argument depends on *realization* rather than *level* of genetic potential. So long as genetic potential has been realized or heritability has exerted its due influences, identical twins will be considerably more correlated than fraternal twins in observed intellectual development whatever the level of genetic potential for intellectual development. In order for a potential trait to develop, opportunities are essential, but opportunities do not necessarily equal advantages. In a study of genetic potential for intellectual development, opportunities are probably equal to advantages. For another trait, opportunities may not be advantages. For instance, having too many advantages may hinder children from developing their potential for tenacity.

Both the traditional analysis of ascribed and achieved characteristics and our analysis of unrealized genetic potential describe the extent to which inequality of opportunity characterizes a society; but our approach seems to be more direct. Exclusive of random influences, which we assume not to favor one social group over another, only opportunities can make an individual realize or fail to realize his or her genetic potential. Any unrealized genetic potential would suggest less than sufficient opportunities.¹

The recognition of the interaction between genetics and environment has implications for policy interventions. To many social and behavioral scientists, "genetic effects" are inalterable; they are fixed at conception. Since genetic effects cannot be changed, estimating their magnitude would not be useful for policymakers. This traditional view needs to be modified in light of our previous argument. Any genetic effect has to be conditional on certain social circumstances. This suggests that policymakers can, through altering the social or environmental circumstances, help the disadvantaged members of a society realize their genetic potential.

Relevant Work in Behavioral Genetics

FURTHER THEORETICAL DEVELOPMENT

There is a rapidly growing body of evidence pointing to an important role of genetics in the determination of human pathology, psychopathology, and physical traits. The genetic basis for such neurological disorders as Parkinson's disease, epilepsy, and Huntington's disease is well established (Berkovic & Scheffer 1997; Jaroff 1991; Wood 1997; Wellington et al. 1997). Consistent with our direct observation of the resemblance in physical traits among biologically related people, genetic studies have found that more than 70% of variance in height and weight is attributable to genetic influences (Grilo & Pogue-Geile 1991; Plomin 1990).

Compared with pathology and physical traits, complex human behavior appears much more environmentally determined; nevertheless, behavior geneticists have reported genetic effects on such seemingly environmentally determined behavior as parenting style, rate of accident occurrence in childhood, television viewing habits, peer group selection, timing of the first sexual intercourse, social support, marital disruption, educational attainment, and socioeconomic status (Plomin, Owen & McGuffin 1994; Rodgers, Rowe & Buster 1999; Rowe 1994).

With very few exceptions (e.g., Jencks 1980), sociologists have stayed away from the study of genetic influences as a cause of human behavior. It was only recently after the publication of *The Bell Curve* (Herrnstein & Murray 1994) that some sociologists called for a systematic investigation of human intelligence (Massey 1995) and of biological bases for human behavior (Nielsen 1995).

While most behavioral genetic studies are concerned with finding genetic effects, some did consider possible social or environmental influence on the expression of genetic predisposition (Rowe & Waldman 1993; Udry 1996). In this consideration, a behavioral trait is a result of not only the sum of environmental and genetic influences, but also the interactions between environment and genetics. Genes provide the potential, but whether the potential can be realized is determined by environmental conditions. The interactions between genetics and environment can be illustrated dramatically by comparing Asian immigrants in

the U.S. and U.S.-born Asians. Studies have found that because of lifestyle and diet, U.S.-born Asians are twice as likely as Asian immigrants to suffer from prostate cancer (Cook et al. 1999) and that Asian American adolescents born in the U.S. are more than twice as likely to be obese as are adolescents who recently immigrated into the U.S. (Popkin & Udry 1998).

This line of thinking forms the premise of our analysis: social conditions moderate the expression of biological or genetic predispositions. Different social conditions can result in a different level of genetic influences on a particular behavior. For example, the amount of individual freedom in a society affects the expression of genetic predisposition. The less individual freedom available and the more a society demands conformity, the less genetic predispositions influence individual behavior. Following the same logic, the more choices individuals have in a society, the more biological forces are responsible for the behavioral differences among individuals. For example, biological forces probably contribute considerably more to the differences across individuals in sexual behavior in the U.S. today than they did in seventeenth-century Puritan New England.

Behavior that changes over a historical period seems to defy the explanation of genetic influences because genes do not change over a relatively short period of time. Although genetic potential does not change, the social conditions that regulate genetic potential do. When the social conditions change markedly over time, the amount of genetic potential realized could change markedly over the same period. For this reason, the remarkable historical changes in fertility and sexual behavior could well have an important genetic explanation even though social forces are still the driving forces.

Within a society, individuals may enjoy different levels of opportunities or face different levels of societal constraint with respect to a particular behavior. Individuals who live under greater societal constraint have more difficulty realizing their genetic potential. It is less likely for a minority child growing up in an inner city than a middle-class child of equal genetic potential growing up in an affluent suburban area to succeed in obtaining a first-rate education and a middle-class income. Scarr and McCartney (1983) put forward the idea that children tend to actively seek the right environment that matches their genetic tendencies. We posit that children living in an affluent suburban area should find it much easier to find the right environmental "niches" to fill than children living in urban ghettos.

In this analysis, we hypothesize that the extent to which a child realizes his or her genetic predispositions for intellectual development depends on social environments. Children growing up in disadvantaged environments face greater societal constraints and are less likely to realize their genetic potential. This hypothesis will be tested explicitly using data from a large sibling sample collected by the National Longitudinal Study of Adolescent Health.

We emphasize the likelihood of nonlinear relationship between quality of an environment and realization of genetic potential. Better environments may not

necessarily lead to better realization of genetic potential. There are probably diminishing returns to familial investments in children. At some point, additional investments cannot further improve a child's intellectual development. In other words, one environment may be more privileged than another in absolute terms, but both may be "good enough" for intellectual development. Thus, empirical analysis may only be able to detect interaction effects in the most underprivileged environments.

PREVIOUS EMPIRICAL TEST OF HERITABILITY/ENVIRONMENT HYPOTHESIS

Over the past three decades, a number of attempts have been made to detect the evidence for social moderation of the level of heritability (Dunne et al. 1997; Fischbein 1980; Heath et al. 1985; Rowe, Jacobson & Van den Oord 1999; Scarr-Salapatek 1971; Sundet et al. 1988). Dunne et al. (1997) examined the self-reported age at first sexual intercourse for two age cohorts of monozygotic (MZ) twins and dizygotic (DZ) twins from the Australian Twin Registry. The younger cohort was born after the 1952-53 period and the older cohort before it. Dunne and associates reported much higher genetic contribution to the variance in age at first intercourse among twins in the younger cohort (72% for males and 49% for females) than in the older cohort (0% for males and 32% for females). The interpretation offered is that in a more tolerant social environment since the 1950s, individuals' biological characteristics played a more pronounced role in a person's initiation of sexual activity.

Using MZ twins and like-sexed DZ twins born between 1915 and 1960 from the Norwegian Twin Panel, Heath et al. (1985) also constructed a younger cohort (born after 1940) and an older cohort (born before 1940). For individuals in the older cohort, parental education and genetic factors accounted for 47% and 41%, respectively, of the variance in educational attainment measured by length of education. Because of the more liberal social and educational policies introduced in Norway after the Second World War, it is expected that parental educational attainment would contribute less and heritability would contribute more to children's educational attainment in the younger cohort. The findings are consistent with this expectation for males (8-10% from parental education and 67-74% from heritability), but not for females (41-50% from parental education and 38-45% from heritability). In a similar study based on MZ and DZ twins born between 1931 and 1960 and retrieved from the records of the Norwegian Armed Forces, Sundet et al. (1988) reported no consistent cohort effects on the relative contribution of heritability to intelligence test scores. All three studies we have described rely on different age cohorts to identify the changes in the social environment that might have moderated the realization of genetic potential.

Three other studies have measured social environment more directly. Without an actual measure of family socioeconomic status (SES), Scarr-Salapatek (1971), using a sample of twins from Philadelphia, assigned to each pair of twins the median level of income and educational characteristics of the census tract in which the pair resided. Without information on zygosity of twins, she estimated the proportion of MZ twins based on the information on whether the pair is of the same sex or different sex. Her calculations showed support for the argument that low-SES environments decrease the level of heritability of intellectual skills and increase the level of influences of shared environment. Fischbein (1980) tested the same hypothesis on data from a Swedish twin study. Fischbein divided social class into three groups: (1) employers who are mostly college graduates; (2) salaried employees (e.g., small owners, administrators, etc.); and (3) manual workers. Heritability appears to account for a greater portion of the variance in cognitive test scores in social classes 1 and 2 than in social class 3. Fischbein conducted calculations separately by type of twins and social class using small to medium-sized samples of 14 to 58 pairs for each calculation.

Rowe, Jacobson, and van den Oord (1999) recently investigated how parental education influences the levels of genetic and shared-environmental contributions to variation in intellectual development. They used the method of DeFries-Fulker analysis (DeFries & Fulker 1985) and samples of MZ and DZ twins, full and half siblings, cousins, and biologically unrelated individuals living in the same household collected by the National Longitudinal Study of Adolescent Health in the U.S. (Bearman, Jones & Udry 1997). Rowe and associates found that heritability and shared environmental influences accounted for 74% and 0%, respectively, of the variation in cognitive test scores among children whose parents have an education beyond high school. In contrast, among children whose parents have only a high-school education or less, heritability and shared environmental influences contributed 26% and 23%, respectively, to the variation in the same test scores.

Rowe and his colleagues' results are important for the environment/heritability-interaction hypothesis. However, Rowe and associates examined the interaction between heritability and only one SES variable (parental education). This is equivalent to assuming that only parental education can condition the realization of genetic potential for intellectual development. In our analysis, we simultaneously consider the possible conditioning effects of all observable SES characteristics including parental education, family structure, family income, and parental occupation. In a sense, Rowe and associates' analysis is bivariate and ours multivariate. In our analysis, we consider all observable family SES characteristics simultaneously using the mixed or multilevel model (Guo & Wang n.d.). The analogy is a multiple linear regression that considers multiple predictors simultaneously in one regression model.

Data

SIBLING SAMPLES

The data source for this analysis is the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a school-based study of the health-related behaviors of adolescents in grades 7-12 in the U.S. (Bearman, Jones & Udry 1997). The school sample was stratified by region, ethnic mix, size, urbanicity (urban/suburban/rural), and school type (public/private/parochial). In 1994, the in-school questionnaire was completed by more than 90,000 adolescents from 134 schools. All students who completed an in-school questionnaire, as well as those who did not complete a questionnaire but who were listed on a school roster, were eligible for selection into the in-home sample. The first wave of the in-home survey interviewed a total of 20,754 adolescents from May through December of 1995. The first-wave in-home sample includes a core sample of 12,105 individuals representative of adolescents in grades 7 to 12 during the 1994-95 school year in the U.S. The in-home sample also includes special oversamples of several minority groups, adolescents from saturated schools in which all enrolled students were eligible for the in-home interview, disabled adolescents, and genetically related adolescents. At the time of the in-home interviews, a parental questionnaire was completed by one of the adolescent's parents (usually the mother) or guardians.

The data for our analysis come from the sibling sample within the Add Health Study, which has deliberately incorporated the behavior-genetic designs as components in an otherwise traditional survey. The sibling sample is composed of six groups: monozygotic twins, dizygotic twins, full biological siblings, half biological siblings, cousins, and biologically unrelated adolescents living in the same household. The classification of the twins into monozygotic (MZ) pairs and dizygotic (DZ) pairs was based on self-reports of confusability of appearance and comparison of their match on DNA genetic markers (Rowe et al. 1999). Our analysis has excluded biologically unrelated individuals living in the same household because of the uncertainty about how much of an environment these individuals share. For instance, the amount of environmental influences shared is determined by the age at which the child is adopted for adopted children or by the parent's remarriage date for stepchildren. Neither adoption dates nor remarriage dates are known.

To reduce heterogeneity across different ethnic groups, we have confined our analysis to blacks and whites only. We have also excluded individuals who are not classified into any type of genetic group, those whose information on the measure of intellectual development is missing or whose measure of intellectual development is extremely low, and those who are the only ones in the family. Our working sample consists of 3,129 genetically related individuals. With five groups and four degrees of genetic relatedness embedded in a nationally representative survey, this Add Health sibling sample provides a unique opportunity to examine

the contribution of genetic and environmental influences on children's intellectual development.

MEASURES

In this analysis, we measure intellectual development with the Add Health Picture Vocabulary Test (PVT), an abridged version of the Peabody Picture Vocabulary Test—Revised (PPVT). The PPVT measures an individual's receptive (hearing) vocabulary for Standard American English and provides, at the same time, an estimate of verbal ability or scholastic aptitude (Dunn & Dunn 1981). The PPVT has 78 test items. The test was given to adolescents present at the in-home wave-I survey. PPVT has been used widely as a measure of intellectual development in the social sciences (e.g., Duncan & Brooks-Gunn 1997; Moore & Snyder 1991).

Some earlier work (Phillips et al. 1998) suggests that the racial gap in PPVT score is most evident before children begin school and begin interacting with middle-class peers and teachers. The use of a measure of reading or mathematics achievement as a dependent variable can be an alternative. Unfortunately, there is no other measure of achievement available in the Add Health dataset. Furthermore, if it is the case that African American children are most disadvantaged on the PPVT before they enter school (Jencks 1998; Phillips et al. 1998), then we actually underestimate the extent to which African Americans who do not speak standard English are disadvantaged in vocabulary development and oral comprehension by choosing a developmental stage where the black-white gap has narrowed somewhat. This measurement problem would therefore conservatively bias our results. Other concerns about the PPVT, which include an inability of black children to understand white interviewer's accent or dialect, should not come into play with a population as old as that in Add Health. When the PPVT is administered, the children have experienced a minimum of seven years of formal schooling, at which point they are likely very familiar with standard English.

In the eventual mixed-model analysis, we will include a standard set of independent variables that social scientists use when modeling intellectual development (Duncan & Brooks-Gunn 1997; Duncan, Brooks-Gunn & Klebanov 1994; Guo 1998; Guo & Harris 2000; Moore & Snyder 1991). The information on these independent variables comes from a variety of sources within the Add Health Survey. In addition to the in-school questionnaires, each child in the sibling sample also filled out an in-depth in-home survey. In our study, the variables measuring resident mother's education, mother's occupational status, number of siblings, and ethnicity originate in the survey of students. Each respondent reports on the highest level of education that his or her resident mother completed, as well as her occupation. From this information, the variable, years of education, was created to measure mother's educational attainment. A dummy variable was created for measuring whether the mother worked in a white-collar occupation. Those mothers

whose reported occupation is professional, managerial, technical, or administrative are coded as having white-collar occupations, and all others, including those who farmed and worked as manual laborers, are coded as having blue-collar occupations. In keeping with the new census policy, Add Health respondents were allowed to mark as many ethnicity categories as they felt applied to them. We included in the sample those pairs where both respondents designated themselves unequivocally "white" or "black." Although the variable denoting ethnicity does not directly measure a family SES characteristic, we use it to proxy for the relatively more disadvantaged environment that African Americans might face in relation to whites (Farley 1997; Feagin 1991). African Americans are coded as 1 and whites are coded as 0.

Each child is also linked in the data with a parent (usually the biological mother), who provides additional information on the family setting, and a school administrator, who provides information on the respondent's school. Several of our variables originate in the parental questionnaire: household income, unemployment status of parents, and presence of the biological father in the household. The income and unemployment status of parents variables are household-level variables, while the presence of biological father in the household is specific to the child. Income is measured in thousands of dollars of household income in the previous year. Respondents are instructed to include their own income, the income of everyone else in their household, and income from welfare benefits, dividends, and all other sources.

Parental unemployment is a dichotomous variable, which is coded 1 if the parent answering the questionnaire and/or the partner of that parent is unemployed at the time of the survey and coded 0 otherwise. People who are unemployed include those who presently do not hold a job and are actively seeking one. In this case, homemakers are not included as being unemployed because they choose to be out of the labor force. This definition is also consistent with the basic census definition of unemployment. Absence of biological father in the household is a dichotomous variable that is coded 0 if the person answering the questionnaire is the biological father or if that person reported that the student's biological father lived in the same household. Otherwise, it is coded 1.

Finally, the region and urbanicity of residence variables stem from the school administrator's survey. This survey is linked to the child's school of attendance. Region is consistent with the census' definition of region, where the U.S. is divided into four regions; Northeast, South, West, and Midwest. Urbanicity was left to the administrator's evaluation of whether the school was located in a rural, suburban, or urban area. Table 1 provides the means and standard deviations of these measures.

Methods

The ideal approach for our purpose requires direct measures on genetic influences. With such measures, the magnitudes of the effects of genetic influences on children who grow up in different environments could be estimated and compared. Without such measures, we rely on clusters of genetically related individuals for calculating the correlations with respect to intellectual development in various environments. Using the information that different types of genetically related individuals such as MZ and DZ twins have different and known levels of genetic relatedness, the correlation is then broken down into the parts due to heritability, shared environment, and nonshared environment.

How do we infer whether genetic potential is realized from correlation estimates? We first illustrate our answer to this question through an example of human height. Suppose we have two samples of twins with each sample consisting of MZ and DZ twins. The variable of primary interest is the quality of an environment. The first sample have always enjoyed an adequate growth environment and the second sample suffered severe starvation in infancy and childhood. In the first sample, the twins have reached their potential height and MZ twins are expected to be more highly correlated than DZ twins in height because MZ twins share twice as much genetic material as DZ twins. The proportion of the variance in height owing to heritability in the first sample can be considered a working criterion for height genetic potential. In contrast, the twins are unable to reach their potential height in the second sample because of serious undernourishment, which has suppressed genetic potential for height. Consequently, in the second sample, MZ twins would not be necessarily more highly correlated than DZ twins because heritability has played a much smaller role.

In an empirical analysis, we work backward. We search for the less-than-expected difference in correlation between MZ and DZ twins who grew up in a nutritionally deficient environment. The less-than-expected difference implies lowered contribution from heritability to variation in height, which is taken as evidence for the hypothesis that a nutritionally deficient environment prevented individuals from realizing their genetic potential in height. Note that the overall correlation due to both heritability and environment among the ill-nurtured MZ and DZ twins can be as high as that among the well-nurtured twins. It is the correlation due to heritability that is lower among the ill-nurtured twins. The high level of overall correlation among the ill-nurtured twins can result from the common unfavorable environmental influences.

Our analysis on intellectual development follows the same reasoning. To simplify the problem, suppose that all children grow up in either a good environment or a bad one and that our sample consists of pairs of MZ and DZ

TABLE 1: Sample Descriptive Statistics

	Mean	Std. Dev.
PPVT	100.3	13.5
African American	.303	.460
Male	.492	.500
Mother's education in years	13.2	2.46
Income in \$1000	45.0	50.3
Parent unemployed	.07	.25
Mother white collar	.612	.487
Biological father absent	.433	.495
Rural	.275	.44
Urban	.507	.500
Suburban	.216	.410
South	.394	.488
Midwest	.327	.469
Northeast	.110	.313
West	.119	.324
Number of siblings	1.88	1.15

(N = 3,129)

twins. We do not have twins reared apart since birth. A pair of twins in our sample grow up in the same environment. We reason that since a good environment provides more favorable conditions for intellectual development, children growing up in it are more likely to realize their genetic potential for intellectual development. In a good environment, MZ twins are expected to be much more similar to each other than DZ twins in intellectual development. The heritability estimated from a good environment is taken as a standard, which will be compared with the heritability estimated from a bad environment.

On the other hand, poor learning conditions in a bad environment make it much less likely for the twins to achieve their genetic potential for intellectual development. As a result, the difference in correlation with respect to intellectual development between MZ and DZ twins will be less than that in a good environment. This is equivalent to lowered contribution from heritability in a bad environment and consistent with the hypothesis that poor learning conditions suppress genetic potential for intellectual development. In a poor learning environment, the reduced influences of heritability are likely to be replaced by the influences of shared environment (rather than unshared environment), leading to another expected result that shared environmental influences on intellectual development are higher in a bad environment than in a good environment. This expected result is based on two considerations. First, parents' ability to nurture their children to accommodate individual differences is lower in a bad environment.

Second, children's ability to "niche-pick" or find environments suitable for their genetic tendencies is also lower in a bad environment.

What we observe is the total within-pair correlation for MZ and DZ twins, which is the sum of both genetic and shared environmental influences. To isolate genetic from shared environmental influences, we need (1) MZ and DZ twins, (2) MZ and DZ twins in each of the two types of environments, and (3) standard behavior genetic theories. The above-sketched analysis can be accomplished by Pearson's correlation technique that computes the correlation coefficients for both MZ and DZ twins by environment type. An individual's environment, however, is not either good or bad. Social scientists often describe an individual's environment by a number of continuous or categorical variables. These environmental variables need to be considered simultaneously because they are likely to be correlated. Standard correlation analysis is inadequate since it cannot take into consideration multiple environmental factors simultaneously. In the following section, we describe how the mixed or multilevel model can be adapted into a "multiple correlation analysis" in this context (Guo & Wang n.d.).

A behavior genetic sample is essentially a sample of observations that are correlated to various degrees because of the various degrees of genetic relatedness. Our main analytical tool is the mixed model, a well-established class of linear models particularly suited to analyzing correlated data (Searle 1971; Searle, Casella & McCulloch 1992). The mixed model is closely related to the multilevel linear model (Bryk & Raudenbush 1992; Mason, Wong & Entwisle 1983) and econometric random effects models. Suppose that we have a measure on intellectual development for a sample of MZ twins, DZ twins, full siblings, half siblings, and cousins, where i and j index the individual and the cluster, respectively. We refer to genetically related individuals as a cluster rather than a pair because more than two individuals are often genetically related (siblings, half siblings, cousins, and even twins). Unlike correlation analysis and other behavior genetic methods such as the DeFries-Fulker analysis, which work with pairs, the mixed model handles clusters easily. The following is a mixed model without covariates for a sample of genetically related individuals of a single type

$$Y_{ij} = \beta_0 + u_j + e_{ij} \quad (1)$$

where β_0 is the intercept, u_j is the cluster-specific random effect, and e_{ij} is the individual-specific random effect or the OLS-like error term. The standard assumptions are that u_j and e_{ij} are mutually independent $N(0, \sigma_u^2)$ and $N(0, \sigma_e^2)$ random variables. The within-cluster or intraclass correlation can be obtained from $\rho = \sigma_u^2 / (\sigma_u^2 + \sigma_e^2)$.

To cope with multiple types of clusters (MZ twins, DZ twins, full siblings, half siblings, and cousins) and to incorporate environmental influences as fixed effects, we expand equation 1 to

$$Y_{ij(s)} = \beta_0 + \beta_1 x_{1ij} + \beta_2 x_{2ij} + \dots + \beta_P x_{Pij} + u_{j(s)} + e_{ij(s)}, \quad (2)$$

where $s = m, d, f, h,$ or c , indicating the type of sibling cluster or genetic relatedness within the clusters of individuals, and p indexes P number of environmental variables x_{ij} . Allowing the variance of e_{ij} to vary by genetic relatedness is crucial because the genetic theory expects the within-cluster variance for more genetically related clusters to be smaller. Following the standard practice in behavior genetic analysis, we treat full siblings and DZ twins separately even though they share the same proportion of genetic materials. The more general expression for the within-cluster correlation is $\rho_{(s)} = \sigma_{u(s)}^2 / (\sigma_{u(s)}^2 + \sigma_{e(s)}^2)$.

To incorporate the environmental influences, we expand equation 2 to

$$\begin{aligned}
 Y_{ij(s)} = & \beta_0 + \beta_1 x_{1ij} + \beta_2 x_{2ij} + \dots + \beta_P x_{Pij} + \\
 & u_{1j} x_{1ij} + u_{2j} x_{2ij} + \dots + u_{Pj} x_{Pij} + u_{0j(s)} + e_{0ij(s)},
 \end{aligned}
 \tag{3}$$

where $u_{1j}, u_{2j}, \dots, u_{Pj}$ are the random coefficients of the environmental influences; and $var(u_{0j(s)}) = \sigma_{u0(s)}^2, var(u_{ij}) = \sigma_{u1}^2, \dots, var(u_{Pj}) = \sigma_{uP}^2, var(e_{0ij(s)}) = \sigma_{e0(s)}^2$.

The statistical models described by equations 1, 2, and 3 can be conceptualized as two-level multilevel models. In this conceptualization, individuals and clusters are considered as level-1 and level-2 units, respectively. Model 1 can be considered an intercept-only two-level model. Model 2 adds observed variables and allows the random effects at both the individual and cluster levels to vary by type of siblings. The second feature of model 2 is uncommon in the multilevel modeling literature. Model 3 adds random coefficients of environmental influences at level 2, allowing the between-cluster variance to vary by environmentally defined groups thus making correlation coefficients (equation 4) functions of social environments.

In the Add Health dataset, the environmental influences such as family income and parental education do not vary within a cluster. As a result, $x_{p\ ij}$ simplifies to x_{pj} for all x 's. Assuming $Cov(u_{pj}, u_{p'j}) = 0$ for $p \neq p'$, we have

$$\rho_{(s)}(Y_{ij}, Y_{i'j} | x_j) = \frac{\sigma_{u0(s)}^2 + \sigma_{u1}^2 x_{1j}^2 + \dots + \sigma_{uP}^2 x_{Pj}^2}{\sigma_{u0(s)}^2 + \sigma_{e0(s)}^2 + \sigma_{u1}^2 x_{1j}^2 + \dots + \sigma_{uP}^2 x_{Pj}^2}.
 \tag{4}$$

Now the within-cluster correlation, $r_{(s)}(Y_{ij}, Y_{i'j} | x_j)$, is a function of both the type of genetic relatedness and environmental influences. The assumption of $Cov(u_{pj}, u_{p'j}) = 0$ for $p \neq p'$ is not necessary and the relaxation of the assumption usually yields a negligible value with minimal substantive implications.

The following system equations can be constructed under the usual assumptions in behavior genetic studies including additive genetic variance, little or no assortative mating, and equal shared environmental influences for MZ and

DZ twins. The system equations can be used to calculate h_x^2 , the heritability in the environment described by x and $c_{(md),x}^2, c_{(f),x}^2, c_{(h),x}^2$, and $c_{(c),x}^2$ the proportions of the variance owing to shared environmental influences among MZ and DZ twins, full siblings, half siblings, and cousins, respectively, also in the environment described by x .

$$\begin{aligned} h_x^2 + c_{(md),x}^2 &= \rho_{(d),x} \\ (1/2)h_x^2 + c_{(md),x}^2 &= \rho_{(d),x} \\ (1/2)h_x^2 + c_{(f),x}^2 &= \rho_{(f),x} \\ (1/4)h_x^2 + c_{(h),x}^2 &= \rho_{(h),x} \\ (1/8)h_x^2 + c_{(c),x}^2 &= \rho_{(c),x} \end{aligned} \quad (5)$$

Of the three assumptions for equation system 5, the one about equal shared environmental influences has drawn the most discussion. Because MZ twins look much more alike than DZ twins, they tend to be dressed more alike and treated more alike by others. But this does not necessarily mean that the assumption is violated. The assumption is outcome-specific, that is, the assumption is only violated when the shared environmental influences for MZ and DZ twins differ with respect to the outcome variable, which is intellectual development in our context. MZ twins may be dressed and treated more alike, but the differential treatment may not conspicuously influence intellectual development.

It takes four steps to compute h_x^2 and $c_{(md),x}^2, c_{(f),x}^2, c_{(h),x}^2$, and $c_{(c),x}^2$. The first step estimates the parameters such as $\sigma_{u0(s)}^2, \sigma_{u1}^2, \dots, \sigma_{up}^2, \sigma_{eo(s)}^2$ using equation 3. This can be accomplished by PROC MIXED in SAS. The second step calculates $\rho_{(s)}(Y_{ij}, Y_{i'j} | x_j)$ using equation 4. The second step requires the parameter estimates obtained in step one and setting the environmental variables at the desired values. The third step substitutes $\rho_{(m)}(Y_{ij}, Y_{i'j} | x_j) = \rho_{(m),x}$ and $\rho_{(d)}(Y_{ij}, Y_{i'j} | x_j) = \rho_{(d),x}$ into the first two equations in equation system 5, solving which we obtain $h_{(x)}^2$ and $c_{(md),x}^2$. In the fourth step, substituting in the last three equations in equation system 5, we obtain $c_{(f),x}^2, c_{(h),x}^2$ and $c_{(c),x}^2$.

Our earlier theoretical argument predicts that disadvantaged social environments decrease the influences of heritability and increase the influences of shared environments on children's intellectual development. This hypothesis can be tested explicitly by examining environmental factors one at a time while controlling for the influences of other environmental factors. For instance, we can calculate h^2 and c^2 's for children who grow up in a low-income family ($x_j = 1$) and for children who grow up in a middle- to high- income family ($x_j = 0$) while setting the values of the other included variables at about the sample means. We expect

that $h_{x_j=0}^2$ is considerably greater than $h_{x_j=1}^2$ and that $c_{x_j=0}^2$'s are considerably smaller than $c_{x_j=1}^2$'s.

Results

Table 2 shows parameter estimates and their standard errors from two mixed models of intellectual development. The entries in row 3 are the between-cluster variances for MZ twins or the variance of the random effect at the cluster level for MZ twins. The entries in row 8 are the within-cluster variances for MZ twins or the random effect at level 1 for MZ twins. Both models allow within-cluster variance and between-cluster variance to vary by type of genetic relatedness; African American is controlled as a fixed effect in model 2. We controlled African American in these models so that our results can be compared with those of Rowe et al. (1999). These results show that between-cluster variances are reduced substantially once African American is controlled. A cluster of siblings is usually of the same ethnicity. Controlling ethnicity has the effect of explaining away the portion of the within-cluster correlation due to ethnicity. Adding more observed variables in an equation whose values are the same within a family would further reduce between-cluster variances. A likelihood ratio test shows that African American is highly significant.

Table 3 compares three sets of correlation coefficients of within-cluster intellectual development by type of genetic relatedness. The first and second sets are calculated from the estimates yielded by models 1 and 2 of Table 2 using equation system 5, and the third is estimated by conventional correlation analysis. The correlation coefficients based on model 2 are considerably different from those based on model 1 because of the control for African American. These estimates indicate that the strength of correlation varies systematically by genetic relatedness and the magnitudes of the variations are consistent with the well-known findings reported previously (Plomin et al. 1994). The mixed-model results in Table 3 (column 2) are also very close to those estimated by correlation analysis using five race-adjusted samples, one sample for each type of genetic relatedness (Table 3, column 3). The five race-adjusted samples are residuals from a simple linear regression with race as a single predictor.

In an earlier section, we argued for a simultaneous consideration of the usual set of family socioeconomic characteristics when studying the interactions between environmental and genetic influences. To substantiate our argument and to explore the data, we calculated the proportional contributions of heritability, shared environment, and nonshared environment to the variation in intellectual development by family socioeconomic characteristics. The contribution from nonshared environment is the residual category, which also includes measurement errors. Each row in Table 4 represents results from two correlation analyses with one using the MZ twin sample and the other the DZ twin sample. The numbers of

TABLE 2: Parameter Estimates and Their Standard Errors of the Mixed Models of Intellectual Development

	Model 1		Model 2	
	Parameter	S.E.	Parameter	S.E.
Intercept	100.4	.30	104.0	.31
African American			-12.2	.56
$\sigma^2_{u(m)}$ (MZ twins)	145.7	17.9	117.0	14.9
$\sigma^2_{u(d)}$ (DZ twins)	87.6	10.4	57.9	8.3
$\sigma^2_{u(f)}$ (full sibs)	85.7	7.5	60.2	6.1
$\sigma^2_{u(h)}$ (half sibs)	87.1	13.1	54.9	10.3
$\sigma^2_{u(c)}$ (cousins)	116.6	29.1	39.1	16.7
$\sigma^2_{e(m)}$ (MZ twins)	43.8	4.6	43.8	4.6
$\sigma^2_{e(d)}$ (DZ twins)	87.6	6.6	87.5	6.6
$\sigma^2_{e(f)}$ (full sibs)	87.9	4.7	87.9	4.7
$\sigma^2_{e(h)}$ (half sibs)	95.6	8.8	95.6	8.7
$\sigma^2_{e(c)}$ (cousins)	126.9	19.5	121.6	17.9
-2 Log-likelihood	24590.9		24189.5	
Sample size	3,129		3,129	

Note: Both models allow within-cluster variance and across-cluster variance to vary by type of genetic relatedness. African American is controlled as a fixed effect in model 2.

MZ and DZ pairs used in the two correlation analyses are also given in each row. We thus conducted six correlation analyses for mother's education, two for each category of mother's education. The within-pair correlations for MZ and DZ twins in each category of mother's education are then substituted into the first two equations of equation system 5 to calculate the contributions of heritability and shared environment.

The results in Table 4 enable us to examine the influences of one family SES factor on genetic expression of intellectual development at a time. We regard this as exploratory data analysis. Considered alone, mother's occupation, parental unemployment, absence of biological father in the household, and African American are all in agreement with our main theoretical hypothesis that a disadvantaged social environment decreases the contribution from heritability and increases the contribution from shared environment to intellectual development. For instance, heritability accounts for 49% of the variance in intellectual development for children whose biological fathers are absent from the household as compared with 64% for those whose biological fathers are present. The reverse is true of the contribution from shared environment, which explains 28% of the variance in intellectual development for children not living with their biological fathers as compared with 12% for children living with their biological fathers.

TABLE 3: Correlation Coefficients (p) of Within-Cluster Intellectual Development by Type of Genetic Relatedness Estimated by Models 1 and 2 from Table 2, and Correlation Analysis

Type of Genetic Relatedness	Model 1	Model 2 Race- Controlled	Correlation Analysis Race-Controlled
	p	p	p (n/pairs)
MZ twins	.768	.727	.727 (179)
DZ twins	.500	.398	.399 (354)
Full siblings	.493	.406	.399 (726)
Half siblings	.476	.364	.350 (243)
Cousins	.478	.243	.249 (89)

Note: Model 2 controls race as a fixed effect and correlation analysis controls for race by using residuals from a simple linear regression of intellectual development on race.

The results concerning mother's education and family income are less straightforward. For children whose mothers have less than high school education, heritability accounts for only about 4% of the variance in intellectual development compared with 68% for those whose mothers are high school graduates. Although these results are consistent with Rowe et al.'s regression results, the smaller number (13 pairs) of MZ twins used in the calculations could contribute to the dramatic difference between 4% and 68%. For children whose mothers have at least some college education, however, heritability explains 63% of the variance in intellectual development, which is less than the 68% for children whose mothers have only had a high school education. This is inconsistent with our hypothesis. Supporting our theoretical argument, for children in the family income bracket of \$16,000 to \$60,000, heritability accounts for 49% of the variance as contrasted to 72% for those whose families have an income of more than \$60,000. Contrary to our theoretical argument, however, for children whose family income is less than \$16,000, heritability accounts for 83% of the variance in intellectual development. These results suggest that multiple family SES factors need be considered together before a meaningful interpretation can be reached. In the following, we will present regression results from the mixed models that use not only MZ and DZ twins, but also full siblings, half siblings, and cousins, and that account for multiple family SES factors simultaneously.

Table 5 presents parameter estimates of six mixed models with each model examining the random and fixed effects of a single family SES characteristic. These analyses achieve a purpose similar to that achieved by analyses presented in Table 4, the difference being that these analyses are done by the mixed regression models. Apart from exploring data for preliminary hypothesis testing, these analyses also serve as an intermediate step between the intuitive correlation analysis and the

TABLE 4: Proportional Contributions of Heritability, Shared Environment, and Nonshared Environment to the Variation in Intellectual Development by Family Socioeconomic Characteristics: Exploratory Analysis

Family SES Indicator	Heritability	Shared Environment	Nonshared Environment	N/MZ Pairs	N/DZ Pairs
Mother's education					
less than high school	.04	.367	.597	13	122
High school graduate	.678	.09	.232	62	411
Mother's education					
greater than high school	.626	.144	.230	100	536
Mother non-white collar	.396	.323	.281	45	307
Mother white collar	.620	.135	.245	96	583
Family income < 16k	.828	.053	.119	20	138
16k < family income < 60k	.488	.225	.287	87	565
Family income > 60k	.722	.017	.261	36	195
1 or 2 parents unemployed	.320	.556	.124	12	52
No unemployment in family	.554	.197	.249	145	927
Biological father absent	.494	.283	.223	64	324
Biological father present	.636	.124	.240	91	654
African American	.57	.155	.275	49	260
White	.714	.026	.260	130	820

more formal multivariate mixed-model analysis. All the family SES variables in Table 5 as well as in other tables are in the original form. The coefficients are not standard coefficients. The fixed effect is the average effect of the family SES factor and the random effect indicates the variability of the fixed effect across clusters. For example, in model 1, we could conceptualize one effect of mother's education for each cluster of siblings. There would be as many effects of mother's education as there are clusters. Roughly, the fixed effect and the variance of the random effect in model 1 are respectively the average and variance of all these effects of mother's education. The coefficient of 1.5 in model 1 indicates that one more year of education on the part of mother is associated with 1.5 points in intellectual development. This is exactly the same interpretation as that for linear regression coefficients. The random coefficient of 0.19 is the variance of the random effect for mother's education. This estimate goes into equation 4 in the calculation of the within-cluster correlation for a particular level of mother's education. The models in Table 5 have essentially included all the features of the mixed model that we use for our analysis. The final models to be presented in Table 7 simply extend the list of fixed and random effects.

All six models are nested with model 1 in Table 2. The likelihood ratio tests indicate that adding the random and fixed effects of any of the six family SES factors

TABLE 5: Parameter Estimates of the Mixed Models of Intellectual Development (Each Model Considers the Random and Fixed effects of a Single Family SES Factor)

	Family SES Indicators					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Mother's Education	Logged Family Income	Mom White Collar	Un-employed	Father Absent	African American
Family SES random effect	.19**	3.1**	0.0	47.4†	31.4**	30.9**
Family SES fixed effect	1.5**	4.9**	4.26**	-2.34†	-5.64**	-12.0**
$\sigma^2_{u(m)}$ MZ twins	84.9**	100.3**	143.3**	141.2**	123.8**	109**
$\sigma^2_{u(d)}$ DZ twins	38.4**	46.1**	82.0**	84.5**	71.1**	47.8**
$\sigma^2_{u(f)}$ Full sibs	33.5**	37.8**	81.4**	83.5**	68.3**	52.5**
$\sigma^2_{u(h)}$ Half sibs	40.1**	35.8*	79.3**	81.7**	54.3**	42.9**
$\sigma^2_{u(c)}$ Cousins	61.9*	61*	107.7**	112.4**	66.5**	24.2
$\sigma^2_{e(m)}$ MZ twins	45.3**	44.2**	44.3**	43.8**	43.9**	43.8**
$\sigma^2_{e(d)}$ DZ twins	87.6**	88.8**	87.6**	87.5**	87.5**	87.5**
$\sigma^2_{e(f)}$ Full sibs	88.5**	88.7**	87.9**	87.8**	87.8**	87.7**
$\sigma^2_{e(h)}$ Half sibs	100.3**	97.6**	97.4**	95.8**	98.3**	95.4**
$\sigma^2_{e(c)}$ Cousins	120.4**	126.5**	124.5**	126.3**	122.4**	121**
Intercept	80.5**	95.4**	97.8**	100.6**	102.8**	103**
-2 Log-likelihood	24402.3	24417.4	24536.1	24580.1	24489.7	24174.6
Sample size	3,129	3,129	3,129	3,129	3,129	3,129

* $p < .05$ ** $p < .01$ (two-tailed tests) † $p < .05$ (one-tailed tests)

significantly improves the fit of the simpler model in Table 2, although the improvement in the fit in model 3 is caused entirely by the fixed effect. Adding the random and fixed effects of any of the six family SES factors reduces the between-cluster variances estimated by the simpler model. The fixed effects of all family SES factors are consistent with expectations. We have logged family income in the mixed models and unlogged it when we interpret its effects.

The parameters from Table 5 were used in equation 4 to calculate within-cluster correlation coefficients by genetic relatedness and SES categories. These correlation coefficients were then used in equation system 5 to compute the relative contributions of heritability and shared environment. Table 6 presents the proportions of the variance in intellectual development owing to heritability and shared environment. The proportion owing to shared environment is estimated separately for MZ and DZ twins, full siblings, half siblings, and cousins.

The mixed-model estimates in Table 6 are broadly similar to those obtained by correlation analysis (Table 4). Consistent with our theoretical predictions, lower family income, parental unemployment, absence of biological father, and African

TABLE 6: The Contributions of Heritability (h^2) and Shared Environment to Intellectual Development

Model	Variable of Interest	h^2	c^2_{dm}	c^2_f	c^2_h	c^2_c
Model 1	Mother's education = 9	.616	.073	.049	.203	.315
	Mother's education = 12	.566	.147	.126	.262	.356
	Mother's education = 16	.494	.253	.237	.348	.419
Model 2	Income = 16k	.514	.255	.232	.331	.396
	Income = 60k	.606	.126	.094	.215	.316
	Income = 100k	.638	.082	.046	.175	.290
Model 4	Unemployed parent	.421	.391	.388	.469	.506
	No unemployment	.544	.219	.216	.325	.403
Model 5	Biological father absent	.480	.300	.292	.346	.385
	Biological father present	.579	.159	.148	.211	.280
Model 6	African American	.576	.185	.199	.292	.241
	White	.720	-.007	.014	.13	.077

Notes: The contributions of shared environment are estimated separately for MZ and DZ twins (c^2_{dm}), full siblings (c^2_f), half-siblings (c^2_h), and cousins (c^2_c). Estimates are based on results from Table 5.

American are all associated with lower contribution from heritability and higher contribution from shared environment to the variation in intellectual development. The variability of the effect of maternal occupation is negligible (Table 5) and the variable is thus omitted from Table 6. The estimates with respect to mother's education, however, are not consistent with our theoretical predictions or with Rowe et al.'s results. These estimates, however, are not inconsistent with our exploratory analysis presented in Table 4, which shows a similar pattern except for the least education category. The estimates for this category could be affected by the small number of MZ twin pairs (Table 4). We have also coded mother's education² the same way as Rowe, Jacobson, and van den Oord (1999) did, and the results are very similar.

Table 7 shows parameter estimates of a number of mixed models of intellectual development with each model considering the random and fixed effects of multiple family SES characteristics. Models 1, 2, and 3 each consider the random and fixed effects of two SES characteristics. Model 4 considers the random and fixed effects of mother's education, family income, parental unemployment, and absence of biological father. Model 5 estimates the random and fixed effects of mother's education, family income, parental unemployment, absence of biological father,

and African American. In addition, model 5 has also estimated the fixed effects of, or controlled for, gender, mother's occupation, sibship size, urbanicity, and region. Models 1, 2, 3, and 4 are nested with model 1 in Table 2 and likelihood ratio tests indicate that the addition of the random and fixed effects in these four models have significantly improved the explanatory power of the models. The fixed effects in the five models are consistent with expectations. Almost all of these fixed effects are highly statistically significant by conventional standards.

As before, we interpret the mixed-model results by calculating the proportional contributions of heritability and shared environment to intellectual development (Table 8). We set the values of the other family SES characteristics at the means when calculating the genetic and shared environmental contribution of a family SES characteristic. This is similar to the procedure of calculating the predicted probability from logit regression coefficients. The contributions are calculated only for those family SES characteristics whose random effect variance is statistically significant at least at the level of 5% for a one-tailed test. The proportional contributions of shared environment are again calculated separately for MZ and DZ twins, full siblings, half siblings, and cousins.

Without model 5 (the full model), the results from Table 8 tell a similar story to those presented in Tables 4 and 6. Consistent with our hypothesis, lower family income, biological father's absence, and parental unemployment are associated with lower contribution of heritability and higher contribution of shared environment to intellectual development. Inconsistent with our hypothesis, however, mother's education continues to be associated negatively, though moderately so, with proportional contribution of heritability. When the random effect of African American and the usual set of controls are added in the full model (model 5), only parental unemployment and African American are significantly associated with the proportional contributions of heritability and shared environment to intellectual development. The results from the final model support our hypothesis.

When one or two of the parents are unemployed, heritability contributes 54% to intellectual development as compared to 67% when both parents are working (model 5 in Table 8). On the other hand, the shared environmental contribution for children of unemployed parent(s) is considerably larger than that for children of working parents regardless of the type of genetic relatedness (e.g., 0.22 vs. 0.043 for half siblings). The proportion of the variance in intellectual development owing to heritability among African Americans (.58) is about 14% less than that among whites (.68). The shared environmental contributions for whites are small, at most a few percentage points of the total, and the same contributions for African Americans are much larger.

TABLE 7: Parameter Estimates of the Mixed Models of Intellectual Development

	Model 1	Model 2	Model 3	Model 4	Model 5
Random effects					
Mother's education	.12*	.20**	.15**	.12*	.06
Income	2.45**			1.53†	.33
Unemployed parent		39.87†		27.3	28.56†
Biological father absent			27.59**	16.69†	1.11
African American					20.01**
$\sigma^2_{u(m)}$ (MZ twins)	68.81**	80.75**	75.25**	65.62**	70.68**
$\sigma^2_{u(d)}$ (DZ twins)	24.28†	35.3**	34.14**	25.11†	25.87†
$\sigma^2_{u(f)}$ (full sibs)	13.09	31.4**	26.33*	14.11	18.12†
$\sigma^2_{u(h)}$ (half sibs)	12.79	34.41*	22.09	8.8	10.44
$\sigma^2_{u(c)}$ (cousins)	38.74	58.25*	34.12	25.07	0
$\sigma^2_{e(m)}$ (MZ twins)	44.88**	45.3**	45.25**	44.86**	45.16**
$\sigma^2_{e(d)}$ (DZ twins)	88.16**	87.55**	87.37**	87.72**	87.11**
$\sigma^2_{e(f)}$ (full sibs)	88.63**	88.4**	88.19**	88.33**	87.08**
$\sigma^2_{e(h)}$ (half sibs)	100.33**	100.4**	101.22**	100.45**	99.09**
$\sigma^2_{e(c)}$ (cousins)	120.60**	119.98**	115.82**	116.99**	116.05**
Fixed effects					
Intercept	96.25**	80.84**	1.45**	95.97**	90.4**
Mother's education	1.19**	1.49**	1.39**	1.15**	1.08**
Income	3.64**			2.98**	1.23**
Unemployed parent		-1.7		.08	1.67
Biological father absent			-4.59**	-3.26**	-1.48**
African American					-9.2**
Sibship size					-.62**
Urban					1.98**
Suburban					.18
Mom white collar					1.66**
Midwestern					4.09**
Northeastern					3.41**
Western					1.92*
Male					.97*
-2 Log-likelihood	24304.4	24393.5	24326.8	24264.3	23868.9
Sample size	3,129	3,129	3,129	3,129	3,129

Note: Each model considers the random and fixed effects of multiple family SES factors.

* $p < .05$ ** $p < .01$ (two-tailed tests) † $p < .05$ (one-tailed tests)

TABLE 8: The Contributions of Heritability (h^2) and Shared Environment to Intellectual Development

		h^2	c^2_{dm}	c^2_f	c^2_h	c^2_c
Model 1	Mother's education = 9	.557	.139	.068	.178	.306
	Mother's education = 12	.527	.184	.118	.219	.334
	Mother's education = 16	.480	.254	.194	.283	.377
	Income = 16k	.469	.270	.212	.298	.388
	Income = 60k	.542	.161	.092	.198	.319
	Income = 100k	.567	.124	.052	.165	.297
Model 2	Mother's education: Results similar to those in model 1 and omitted					
	No unemployment	.547	.172	.156	.272	.369
	Unemployed parent	.435	.340	.329	.413	.472
Model 3	Mother's education: Results similar to those in model 1 and omitted					
	Biological father absent	.585	.110	.087	.183	.275
	Biological father present	.723	-.099	-.131	-.001	.137
Model 4	Mother's education: Results similar to those in model 1 and omitted					
	Income = 16k	.526	.191	.149	.228	.318
	Income = 60k	.572	.119	.069	.158	.266
	Income = 100k	.586	.097	.044	.137	.250
	Biological father absent	.509	.216	.177	.253	.336
	Biological father present	.565	.129	.080	.168	.273
Model 5	No unemployment	.667	-.010	-.053	.043	.037
	Unemployed parent	.543	.175	.146	.220	.209
	White	.676	-.023	-.068	.030	.024
	African American	.582	.117	.084	.165	.155

Notes: The contributions of shared environment are estimated separately for MZ and DZ twins (c^2_{dm}), full siblings (c^2_f), half siblings (c^2_h), and cousins (c^2_c). Estimates are based on results from Table 7.

Discussion and Conclusions

We have investigated how family SES characteristics affect the realization of genetic potential for intellectual development. We hypothesize that a disadvantaged environment tends to suppress the influences of heritability and to amplify the influ-

ences of shared environment on intellectual development. We have examined the effects of a number of family SES characteristics. When considered alone (Tables 5 and 6), mother's education, family income, parental unemployment, absence of biological father, and being African American are all associated with the proportion of the variance in intellectual development owing to heritability and shared environment. All these results, except those of mother's education, are consistent with our theoretical hypothesis. In our final model where we considered a complete set of observed SES characteristics simultaneously (model 5 in Tables 7 and 8), only parental unemployment and African American have a statistically significant effect on the proportional contributions of heritability and shared environment. We consider these results evidence for our hypothesis. One assumption for such consideration is that the environments for intellectual development for African American children are still more disadvantaged than those for white children after controlling for the included family SES variables. Recent work has documented the discrimination African Americans face, decades after the civil rights movements (Farley 1997; Feagin 1991), and the legacy discrimination has left hinders the development of the middle-class vocabularies that would allow children to score highly on the PPVT (Phillips et al. 1998). Their disadvantaged environment appears to have prevented African American children from fully realizing their genetic potential for intellectual development and to have increased the relative importance of shared environmental influences.

When we look at only mother's education without controlling for ethnicity (model 1 in Tables 5 and 6), mother's education has a negative effect on the contribution of heritability, that is, higher level of education is associated with lower heritability contribution. This is actually consistent with Rowe, Jacobson, and van den Oord's (1999) results when they did not control for ethnicity. When they controlled for ethnicity by using residuals obtained from regressing on ethnicity, the interaction effect of mother's education reversed and became consistent with the theoretical hypothesis. When we control for ethnicity as well as a whole set of standard family SES indicators, the interaction effects of mother's education became statistically insignificant.

Our argument also rests on the assumption that potential contributions of heritability to intellectual development across different environmental groups are constant. In other words, we assume that the proportional contribution of heritability to intellectual development among African Americans would be essentially the same as that among whites if African Americans could develop their potential in the same environment as that enjoyed by whites. Although we do not have direct evidence to support the assumption, previous work on differential heritability across different ability levels has not yielded evidence that challenges this assumption (Detterman, Thompson & Plomin 1990; Sundet et al. 1994).

Our analysis is concerned with only genetic potential for intellectual development. Genetically considered, intellectual outcomes are not the only ones.

Potential for athletic accomplishment and artistic expression is also part of genetic heritage. Realizing one's potential in general in such a diverse society as the U. S. may well imply not just one, but multiple developmental pathways, some of which may be in competition with one another. This more comprehensive treatment of genetic potential, however, is beyond the scope of the current analysis. Our approach deals with one outcome at a time.

We locate our analysis within the tradition of social mobility research. Just as traditional sociological analysis characterizes social mobility chances through relative contribution of ascriptive and achievement processes, we characterize social mobility chances by comparing the levels of realized genetic potential for intellectual development across different social groups. In spite of the basic behavioral genetic design, our analysis is a continuation of decades of work that examines the relationship between social environment and intellectual development (e.g., Alwin & Thornton 1984; Duncan et al. 1994; Entwisle & Alexander 1988; Jencks et al. 1972; Phillips et al. 1998). These previous analyses emphasized the impact of environmental influences on intellectual development. Our analysis not only emphasized the role of social environment, but also illuminated one essential mechanism through which environmental forces influence children's intellectual development.

Our findings have important policy implications regarding children's learning environment. Our work lends further support to public policies that aim at improving the social environments of disadvantaged children. We show that it is the children in disadvantaged environments who tend not to realize their potential for intellectual development. Public policies responsible for early intervention programs such as Head Start would make the social environment of these children more conducive to intellectual development and thus help the children realize their genetic potential. Our results bolster those of Ashenfelter and Rouse (2000), who show that schooling increases the intellectual development and therefore the earnings of even those children with the lowest ability levels. Our work has not only provided additional support for public policies designed to assist poor children, but also highlighted a mechanism of how such policies can work — through facilitating the realization of genetic potential.

Although the extent of the influence of intellectual ability on later economic success is debated (Ashenfelter & Rouse 2000; Bowles & Gintis 2000; Herrnstein & Murray 1994; Korenman & Winship 2000), most scholars agree that it has at least some impact on economic success. In addition, most Americans would support equality of opportunity, but not necessarily equality of outcomes (Hochschild 1981, Kluegel & Smith 1986). Our results point toward one way in which equality of opportunity is not currently realized and indicate the necessity of focusing resources toward the most disadvantaged. It is only with this focus on those *most* in need that equality of opportunity in the "level playing field" image can be achieved (Roemer 2000).

Apart from its relevance to social mobility research, our results may have repercussions on some long-standing issues in social sciences. For example, Cattell (1951) observed that, while some countries experienced higher fertility on the part of population with low IQs, the mean IQ levels in those countries were rising. Given that IQ is at least partially heritable, one would intuitively expect that societies with higher levels of fertility in the part of population with low IQ would gradually trend toward a lower, not a higher, mean IQ. This observation is the so-called Cattell paradox. Our results offer some suggestions as to how this seemingly paradoxical process could occur. As societies have become more meritocratic in recent decades, opportunities for children to realize their genetic potential for intelligence presumably have become greater than those of their parents. Some of the parents with high fertility and low IQ probably had fairly high level of intellectual potential, potential that they did not realize because of the inadequate opportunity structure. It was the inadequate opportunity structure that handicapped them in realizing the innate potential. Given that their children are not so handicapped, they will have a greater likelihood of attaining their genetic potential. Hence the overall mean IQ will rise until a point where perfect opportunity exists for everyone, but see Young (1962) for a cautionary tale about this seemingly desirable goal.

Notes

1. By the standard definition given earlier, genetic potential for intellectual development appears to be an ascribed characteristic because it is fixed at birth. There is one major difference between genetic potential and ascribed characteristics like race and gender: while genetic potential is the base for intellectual achievement, race and gender are supposed to be intrinsically unrelated to intellectual achievement.
2. Mother's education is coded from 0 through 6 and treated as a continuous variable: never went to school = 0, < 8th grade = 1, 8-11th grades = 2, high school graduate or equivalent = 3, some college = 4, college graduate = 5, and professional training beyond four-year college = 6.

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Movement–Countermovement Dynamics and the Emergence of New Institutions: The Case of “White Flight” Schools in Mississippi*

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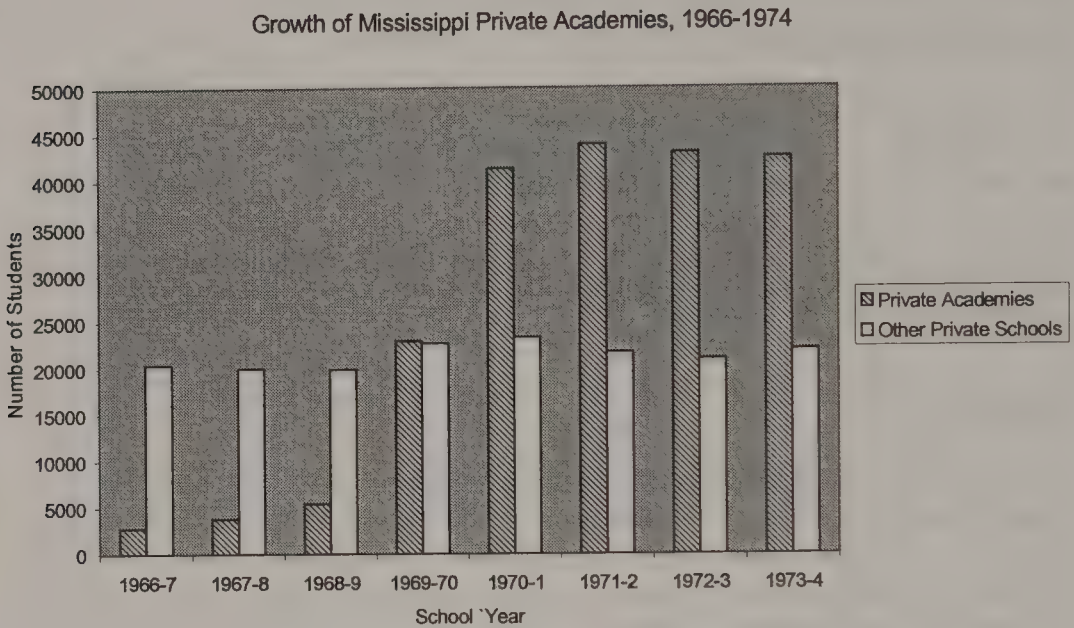
Abstract

This article examines the foundation of private segregationist academies that emerged throughout the U.S. South in the wake of court-ordered desegregation. I focus on the state of Mississippi where private academies grew dramatically from 1969 to 1971. I provide an analytic history of civil-rights and school-desegregation conflicts in Mississippi, and I use OLS models to examine county-level variation in local support for private academies during this period. My analysis shows that the formation of academies occurs as a response to desegregation (1) when there is a credible threat that desegregation will be implemented (implicitly signaling the “success” of the movement); (2) when blacks have the organizational capacity to make claims and voice protest within newly desegregated schools; and (3) when whites have the organizational capacity to resist desegregation. These three specifications extend models of racial competition that have been used to explain white countermobilization. I argue that the establishment of academies was a countermovement strategy that flowed out of the prior history of organized white resistance to the civil-rights movement. In other words, whites were not only responding to court intervention and the proportion of African Americans in their community, but to the social movement mobilization of that community.

Students of social movements, public policy, and political conflict have all attempted to analyze the dynamics of countermobilization. Under what conditions

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FIGURE 1: Growth of Mississippi Private Academies, 1966-74



do groups mobilize against new policies? The implementation of school desegregation in the 1970s is a classic case of a policy that met popular resistance in many communities throughout the U.S.

In this article, I examine the pattern of white resistance to school desegregation in Mississippi. Resistance took a distinctive form — the emergence of a system of segregationist private academies.¹ As we can see in Figure 1, enrollments in these private academies grew dramatically between 1968 and 1970.² In this short time, a parallel system of schools emerged in Mississippi that has survived to the present day. Similar institutions developed throughout the South. Nevin and Bills (1976) estimated that approximately 750,000 students in 1975 attended segregationist academies in the South.

I argue that resistance to school desegregation was part of a much broader pattern of resistance to the modern civil-rights movement. Collective and individual responses to the movement took a number of distinct forms and ranged widely in magnitude. Examining these responses helps us understand the type and extent of institutional change at local, state, and national levels (Quadagno 1994). I argue that the history of conflicts between movements and countermovements shapes the trajectories of institutional formation. I provide a detailed, analytic account of the emergence of the system of all-white private schools. Using county-level data

for Mississippi, I assess the impacts of ecological, political, social movement, and countermovement variables on the formation of private academies. I test alternative explanations, finding substantial support for an argument that emphasizes (1) underlying “structural” processes of racial competition and conflict, (2) court intervention, and (3) movement–countermovement dynamics. The combination of a viable threat to school segregation (in the form of a Supreme Court decision) with the organizational capacity of African Americans to act on that threat and whites to resist that threat explains the rapid development of private schools in some locales and their absence in others.

On the whole, we know very little about the impacts of social movements on institutions (Clemens 1998; Katzenstein 1998). There are some noteworthy exceptions to this trend (e.g., Gamson [1975] 1990), but the major thrust of recent scholarship has been to explain the origins and ongoing maintenance of movement organization and participation (Jenkins 1983; McAdam, McCarthy & Zald 1988; Morris & Herring 1987; Tarrow 1998). Research on movement outcomes has focused on the direct impacts of mobilization on policy or state structures (Burstein, Einwohner & Hollander 1995; Button 1989; Gamson [1975] 1990). To fully understand the process of institutional change, we should examine the unintended consequences of movements. Further, where movements engage in sustained conflicts with mobilized oppositional groups, that is, countermovements, we should also analyze the impacts of movement–countermovement dynamics (Meyer & Staggenborg 1996).

I begin with a discussion of recent developments in social movement theory and review alternative explanations of racial contention with particular emphasis on periods of rapid, widespread desegregation. I move, then, to the specific case of Mississippi, providing historical context for the development of Mississippi’s primary and secondary schools, the development of the Mississippi civil-rights movement, and the emergence of segregated academies in the late 1960s and early 1970s. Private academies emerged soon after the Supreme Court’s *Alexander v. Holmes County* decision mandating desegregation for thirty Mississippi school districts in the middle of the 1969–70 school year. By the fall of the 1970–71 school year, a system of private academies was fully established that served slightly less than 20% of the white primary and secondary students in the state. I present an OLS regression model that tests alternative explanations for the emergence of private academies in Mississippi. I conclude by revisiting the major theoretical issues raised by this study.

The Consequences of Social Movements

The conceptual framework that shapes this article extends the political process approach to social movements. This perspective views the dynamics of movements as part of political conflicts in which movements pursue goals in struggles over political, social, and economic resources (McAdam 1982; Schwartz 1976; Tarrow 1998; Tilly 1978). Theorists argue that changes in the political process open the door for successful mobilization on the part of “challengers” — those who do not have routine access to the polity (Gamson [1975] 1990; Tilly 1978).

I follow a key distinction that arises in debates about the impacts of social movements (and countermovements). Specifically, scholars have attempted to assess the relative importance of factors within a movement’s control and those in the broader political opportunity structure (Burstein, Einwohner & Hollander 1994; Giugni 1998). This approach can be traced through the early studies of movement impact such as Gamson ([1975] 1990), Goldstone (1980a, 1980b), and Piven and Cloward (1977). There are several limitations to prior research that are instructive for analysis of movement outcomes. First, we should separate the goals of a movement from outcomes so that we can examine the unintended consequences of social movements (Amenta & Young 1999; Paul, Mahler & Schwartz 1997; Snyder & Kelly 1979; Tilly 1999). Establishing whether the movement achieves its explicitly stated goals is important, but to understand the consequences of movements we must dig deeper than that. Second, when movements engage in conflict with countermovements, our focus should shift to the consequences of movement–countermovement dynamics.

The interactions between movements and countermovements can produce outcomes that neither would have anticipated at early stages of the conflict. Schwartz (1976) provides a general formulation of the relationship: “When a protest organization challenges [social structures], they act to defend themselves in a variety of ways which evolve from and respond to protest activities” (150). This implies a dynamic model of political interaction in which mass action forecloses choices for other groups (especially elite groups) — a complex process of social change can ensue. In the next section I discuss possible explanations and review empirical evidence drawing from theories of racial competition and conflict, political sociology, and social movements.

Contending Explanations of White Countermobilization

STRUCTURAL CONTOURS OF RACE

A number of arguments have been made in efforts to explain the rise of anti-integrationist movements. Competition theorists suggest that the primary determinant of white resistance is the level of contact between blacks and whites

that would result from changes in existing institutions. Olzak, Shanahan, and West (1994) argue that “both anticipated fears that racial contact will rise and actual shifts in interracial contact foster racial conflict that has been generated by competition processes” (201). According to competition theorists, labor markets are key sites of interracial competition and conflict. Competition theorists have also found support for this claim in venues beyond the labor market. For example, a recent study finds that the rate of antibusing protests in U.S. cities was predicted by “(1) increases in whites’ exposure to African Americans, (2) decreases in school segregation, and (3) decreases in whites’ residential isolation levels” (Olzak, Shanahan & West 1994:232). Examining a diverse set of cases including lynching and urban labor markets, Olzak (1992) and Olzak, Shanahan, and West (1994) have built a model based on the structure and overlap of ethnic niches. Research on “white flight” finds strong support for competition theory and shows that the proportion of the population that is black plays an important role in “virtually all” the studies reviewed by Rossell (1983), a leading scholar of school desegregation. In a study of the thirty Mississippi school districts affected by the *Alexander* decision, Munford (1973) argues that “a demographic factor — the Negro percentage within the school district’s boundaries — appears to have an extraordinary influence on white resistance to unitary desegregation” (23; see also Bullock & Rodgers 1976).

A variation on competition theory argues that white resistance does not target all African Americans (or the total proportion within a population). Rather, (middle- and working-class) white resistance targets poor and working-class African Americans. This argument suggests that whites are less motivated by racial prejudice than by class prejudice (see Bullock & Rodgers 1976; Conlon & Kimenyi 1991). Conlon and Kimenyi (1991) support this line of argument in their analysis of county-level patterns of 1980 private school attendance in Mississippi. They find that class and race characteristics of the county shape private school attendance and argue that white parents are motivated by potential contact with poor blacks but not with poor whites.

I agree that structural characteristics are important factors shaping the pattern of resistance to desegregation. However, I argue that proximate political factors play a highly consequential role during periods of rapid institutional change. In the next two sections I discuss the political factors (court intervention and movement-counter movement dynamics) that play an independent role in shaping white countermobilization.

COURT INTERVENTION — THE ROLE OF LEGAL CHANGE

Social movement theorists have long held that state action shapes social movement mobilization (McAdam 1982; Tilly 1978). Courts, in particular, have played a critical role in shaping the dynamics of U.S. social movements. The *Roe v. Wade* decision is one of the most prominent examples of a court decision that became

a target of popular contention (Luker 1984; Rosenberg 1991). In addition, courts played a central role in the Boston busing crisis during the 1970s (Taylor 1986; Useem 1980).

Similarly, the *Brown v. Board of Education* decision generated countermobilization throughout the South. The Citizens' Council, often characterized as a middle-class version of the Ku Klux Klan, formed in the immediate wake of the decision. Shortly thereafter, a small group met in Indianola, Mississippi, to resist "Black Monday," the day the *Brown* decision was handed down. Citizens' Councils were established throughout the South and employed legalistic tactics to resist school desegregation and the civil-rights movement more generally (McMillen 1971).

Legal victories associated with a social movement seem especially likely to generate countermobilization. As Meyer and Staggenborg (1996) note, the success of movements creates opportunities for countermovements. They go on to suggest a curvilinear relationship between success and countermovement mobilization in which "movement victories that are truly decisive preclude the possibility of countermovement action in alternative arenas" (1637). Less decisive victories provide opportunities to countermovements. Zald and Useem (1987) add

a victory or defeat in one arena or battlefield shifts the locus of attack, the nodal point for the next major battlefield. For instance, once the pro-abortion forces won the Supreme Court to its side, antiabortion forces shifted to the issue of federal funds for abortion (251).

This insight is crucial for understanding the "opening" created by the *Alexander* decision for advocates of an all-white private school system.³

The examples noted here suggest that court action can be a significant factor propelling countermobilization. In Mississippi some counties were included in the *Alexander* decision while others were not. In the analysis that follows, I examine whether counties targeted by court intervention were more successful in establishing private academies.

MOVEMENT-COUNTERMOVEMENT DYNAMICS

The theories discussed above offer plausible accounts of the contextual factors that influence white resistance to integration. However, I argue that prior movement and countermovement mobilization in a community shapes the form and extent of resistance to school desegregation. In this section I address three conceptual issues: (1) the distinction between movements and countermovements, (2) the claim that academies were part of a broader countermovement, and (3) the advantages of examining movement-counter movement dynamics.

Countermovements are often distinguished from social movements along a number of key dimensions, the most important of which are membership, structural position, tactics, and goals (see Lo 1982; Meyer & Staggenborg 1996; Mottl

1980; Zald & Useem 1996). Scholars attempting to define countermovements have confronted a number of difficulties. In particular, there is a tendency to conflate conservative movements with countermovements and assume that countermovements are by definition reactionary. In contrast, Meyer and Staggenborg (1996) provide the most useful definition: "a 'countermovement' is a movement that makes contrary claims simultaneously to those of the original movement" (1630). The issue is primarily sequencing (the temporal order of movement emergence) and the nature of the claims (whether the second movement's claims are framed in reference to the first). They argue that the distinction becomes insignificant, however, if the movement and countermovement persist over an extended period of time. In these cases, we should abandon the movement–countermovement label and analyze opposing movements.

Mottl (1980) argues that one of the ways countermovements can be distinguished from social movements is their greater access to resources because they defend established patterns of inequality and draw on significant personal and collective resources in their struggles. While I disagree with Mottl that this is a defining characteristic of countermovements, Mottl's description does seem to apply to efforts to form segregationist academies. In Mississippi the formation of academies required the mobilization of substantial resources, in contrast to less costly strategies like antibusing protests or letter-writing campaigns. This difference in the cost of the strategy helps to differentiate the establishment of academies as an elite-sponsored strategy from antibusing movements, which seem to have a working- and lower-middle-class base (James 1989; Mottl 1980; Olzak, Shanahan & West 1994; Rubin 1972).⁴ In the case of large metropolitan areas, upper- and middle-class whites are likely to move from school districts experiencing desegregation (Rossell 1983). This strategy was less viable for white elites (and nonelites) in Mississippi.

Should the formation of private academies be treated as part of a broader social movement? In many cases white flight has been regarded as the aggregation of individual calculation rather than the consequence of movement dynamics (e.g., Conlon & Kimenyi 1991). In Mississippi, whites faced a situation where the two most obvious individual strategies (moving to different school districts and attending already established private schools) were either not available or not sufficient to accommodate resistance to integrated schools. Certainly, some whites pursued individual strategies for dealing with the perceived consequences of desegregation. For example, in Natchez, where a system of zoning was implemented, the school superintendent found many whites submitting change of address forms to remain in a majority white school (Reed 1969). Because Mississippi had repealed its compulsory attendance law in 1956, parents also had the option of withdrawing their children from school altogether. Collective strategies included boycotts and other protests by some parents (Wooten 1970c). However, the main

strategy of resistance took the collective form of building new educational institutions.

The formation of segregationist academies can be conceptualized as a countermovement because there were links to a broader countermovement aimed at resisting the civil-rights movement. If my argument is correct, prior countermovement activity — both violent and nonviolent — should shape the later development of academies. In Mississippi there was a broad set of formal organizations and informal networks that facilitated local countermovement activity. Movement theorists (Buechler 1990; Staggenborg 1998) have used the term “social movement community” to characterize the type of local infrastructure that formed, which I describe in greater detail below.

Meyer and Staggenborg (1996) and Zald and Useem (1987) suggest moving toward an analysis of strategic interaction when studying movements and countermovements. Zald and Useem (1987) also warn that the tactical interaction does not always take the form of a “tight spiral.” Rather, in many cases we find a “loosely coupled tango” in which countermovements mobilize in response to and against the “success” of their opponents rather than against the movement itself. The tactical interaction between movements and countermovements is often obscured because the relationship is mediated by political authorities and institutions. What is most important in an analysis of outcomes is to trace the partial and fragmented effects of movement–countermovement dynamics as they become embedded within social institutions (Mottl 1980; Paul, Mahler & Schwartz 1997). Whites were responding not only to court intervention and the proportion of African Americans in their community, but to the *social movement mobilization* of that community — the history of protests, boycotts, voter canvassing, legal action, and other activism. In addition to movement mobilization, more conventional electoral mobilization such as black candidates running for office should have a similar effect of escalating white resistance.

As McMillen (1971) notes in his history of the Citizens’ Council, white mobilization consistently peaked in response to indigenous black mobilization or the threat (perceived or real) of federal intervention:

The story of Council expansion, then, was not one of steady progress. Represented graphically, its growth in Mississippi, and elsewhere in the South, resembled a fever chart with peaks occurring in periods of racial unrest when the white population’s perception of the imminence of desegregation was greatest. (28)

To the extent that segregationist academies are linked to movement–countermovement dynamics, they reveal the underlying political nature of educational institutions (James 1989). Rossell (1983) notes that “few studies have examined systematically the effect of [white] protest and leadership support for desegregation on white flight, primarily because the costs of collecting such data are quite high” (35). I would add that studies that examine the political mobilization of blacks are even less common. In a study of the school districts

affected by the *Alexander* decision, Munford (1973) argues that the proportion of blacks in a school district is the single most important factor explaining white flight. At the end of his study, he reflects on the factors associated with the relative proportions of blacks and whites, and he speculates that the perceived threat of black political power is the motivating force for parents exiting the public school system. Munford is thinking primarily of an electoral threat in which blacks constitute a larger proportion of the electorate. The question that Munford does not pose is whether black mobilization has an impact independent of the latent challenge posed by a large black population.

Social movements, in the process of mobilizing toward particular goals, always engage other social actors, whether countermovements, state agencies, legal institutions, or the news media — to name a few (Burton 1984; Gale 1986; Maguire 1993). This engagement can have unintended and escalatory effects that lead to major changes in social institutions.

SUMMARY

Three themes run through the above discussion: the formation of private schools occurs as a response to desegregation (1) when there is a credible threat that desegregation will be implemented (implicitly signaling the “success” of the movement); (2) when blacks have the demonstrated organizational capacity to make claims and voice protest within newly desegregated schools based on the legacy of prior mobilization; and (3) when whites have the organizational and resource capacity to resist desegregation. These three themes extend the models of racial competition and class-based theories of white flight by specifying more precisely the mobilization process that leads to significant countermobilization and institutional change.

The analysis presented in this study focuses on an unintended and largely unanticipated consequence of the Mississippi movement, which was the establishment of all-white academies as a resistance strategy pursued by whites. Below I summarize the expectations derived from the prior discussion:

1. The black proportion of a county’s population (especially the school-age population) should be positively related to the establishment of academies.
2. Greater levels of black poverty should be positively related to the establishment of academies as whites attempt to avoid contact with lower-income blacks.
3. Counties covered by the *Alexander v. Holmes* Supreme Court decision should respond more effectively in the formation of private schools.
4. Prior civil-rights mobilization within the black community should be positively related to the establishment of academies.
5. Prior electoral mobilization by blacks should be positively related to the establishment of academies.

6. Greater economic resources for white households should be positively related to the establishment of academies.
7. A history of resistance to the civil-rights movement by whites whether violent or nonviolent should be positively related to the establishment of academies.

The Mississippi Movement and the Politics of Schools

In this section, I outline the broad contours of the civil-rights movement's development in Mississippi (see, e.g., Carson 1981; Dittmer 1994; McAdam 1988; Payne 1995).⁵ I also present a chronology of the legal struggles that took place over education as a context for the quantitative analysis of county-level data (for further background, see Parker 1987; Wirt 1970). The Mississippi case is especially intriguing because of the wide array of strategies used to undermine the movement and to dilute its impact, including violence, intimidation, and legal strategies (Colby 1987; McMillen 1971; Parker 1990).

COMMUNITY ORGANIZING AND BLACK MOBILIZATION

The Mississippi civil-rights movement lagged behind other areas of the South because of the highly repressive political context. After the *Brown v. Board of Education* decision, white Mississippians formed the Citizens' Councils, an organization that became influential throughout the state (McMillen 1971). During the 1950s, the primary focus of NAACP leaders in Mississippi was expanding the organization throughout the state. Few efforts were made to launch direct, public challenges to racial inequality until the early 1960s (Dittmer 1994).

In the early 1960s, the Mississippi movement was invigorated by the efforts of the Student Non-Violent Coordinating Committee (SNCC) and the Congress of Racial Equality (CORE), who adopted a community-organizing approach focused on voter registration and the development of an indigenous leadership (Payne 1995). Community organizers worked in towns throughout the state attempting to register new voters and expand the organizational capacity for future mobilization. In 1964 the Council of Federated Organizations (COFO), an umbrella organization for civil-rights groups in Mississippi, sponsored Freedom Summer, bringing college students from across the U.S. into Mississippi's community-organizing projects (McAdam 1988).

Directly after Freedom Summer, the Mississippi Freedom Democratic party led an unsuccessful effort to unseat the all-white Mississippi delegation to the Democratic Party's national convention in Atlantic City. Undoubtedly, electoral politics dominated the goals and tactical choices of the movement, a dominance reflected in the historical scholarship. The civil-rights movement also played a

critical role, however, in the desegregation of the public schools in Mississippi, and the movement’s opponents were highly mobilized around the issue of education.

LITIGATION AND THE STRUGGLE OVER PUBLIC SCHOOLS

Resistance to desegregation in Mississippi passed through several phases, each marked by distinct strategies. The first wave of widespread mobilization followed the *Brown v. Board of Education* decision. As noted above, the *Brown* decision’s major impact in Mississippi was the consolidation of white resistance in the Citizens’ Council. Efforts were made in a handful of school districts to act on the implication of *Brown*. In Yazoo City, Clarksdale, Natchez, Vicksburg, and Jackson, petitions for desegregation were circulated through some of the most established NAACP chapters in the state. Dittmer (1994) shows that the Citizens’ Council’s response was two-pronged: (1) public announcements, including full-page advertisements in local newspapers listing the names of petition signers and (2) economic retaliations, including firing employees and boycotting black business owners. In short, moves toward implementation of the *Brown* decision were met by swift “massive resistance,” a term used to describe the various legal and political strategies employed throughout the South.

In the early 1960s, the NAACP Legal Defense Fund and the U.S. Justice Department began to file desegregation suits. In addition, after the passage of the 1964 Civil-Rights Act, the Department of Health, Education, and Welfare (HEW) was authorized to withhold federal funds from school districts that were not desegregating. Parker (1987) points out that this pressure generated a two-stage process. The first stage was “freedom of choice” plans, which were obvious stalling mechanisms generating very little change. These plans allowed parents to register children at any school within the district. Before the *Alexander* decision in 1969, HEW reported that 88% of blacks attended all-black schools and 12% of whites attended all-white schools (Munford 1973). In other words, there was token integration; in most school districts a handful of black children attended formerly all-white public schools. Parker (1987) concludes that the first stage “generally left the black schools all-black, and resulted in very little integration of the white schools” (691).⁶

The second school integration stage began in 1969–70, and it was initiated in Mississippi by the Supreme Court’s decision in *Alexander v. Holmes County* (for detailed accounts of the court case and implementation, see Parker 1987, Rosenberg 1991, and Wirt 1970). The decision combined a set of nine Justice Department suits and sixteen NAACP Legal Defense Fund suits. The outcome of the cases’ complex trip through the legal system was an end to freedom of choice plans in thirty-three school districts and a court order to desegregate thirty districts in the middle of the 1969–70 school year.⁷ In summer 1969 the Fifth Circuit Court of

Appeals ordered desegregation for the upcoming school year. This was followed by an unusual intervention on the part of the Nixon Administration, when the secretary of HEW, Robert Finch, requested a delay in the implementation of the decision. While the Fifth Circuit panel of judges granted the delay, that decision was quickly reversed by the Supreme Court on October 29, 1969 (Munford 1973). Parker (1987) notes that "Within ten months [of the Supreme Court decision], 146 of Mississippi's 148 school districts had been forced to abandon ineffective freedom of choice plans and to adopt new desegregation plans that revised attendance boundaries and employed zoning, pairing, busing, and other remedies to achieve fully integrated school systems" (693). As Figure 1 illustrates, a large number of students exited the public school system between 1969 and 1971. There was a slow trend of increasing enrollments in private academies through the 1960s followed by rapid growth at the end of the decade.

THE CONTINUITY AND TRANSFORMATION OF WHITE RESISTANCE

As noted, countermovements often draw on significant pools of resources. In this case the emerging academies secured support from the state and from private groups and individuals. State support included tuition grants, tax exemption, and school materials transferred from the public to the private school system. The flow of each of these resources was ultimately challenged by civil-rights groups, but this was after an initial boost was provided to the new, private institutions by the state (Graham 1970; Rosenthal 1970). For example, the state legislature provided a tuition stipend of \$240 annually to students attending private schools (Wooten 1970a). In addition to the flow of resources from public to private institutions, the public school system sustained a \$12 million dollar budget cut by the state legislature because of the loss of students ("Mississippi Advances" 1970).

Other private resources diverted were small and large donations of money, land, materials, and labor. In Canton, for example, parents and students spent part of the Christmas break renovating a former tent factory to serve as a new private school (see also Nevin & Bills 1976). One teacher noted that whites in Canton "have decided that the battle with the Federal Government is over and that there is nothing left to do but either let their kids go to school with the coloreds or pay tuition to keep them apart" (Wooten 1970b:28). Additional resources came from religious institutions like the Baptist Church, which attempted to organize and support academies, and local banks, which provided loans to the new academies (Reed 1969, 1970). In some cases, Nevin and Bills (1976) report, "entire student bodies moved from formerly all-white public schools to new private schools. They took along the trappings of the old school, its colors, its teams, mascots, symbols, its student newspaper, leaving behind the shell of the building" (14).

To what extent were academies linked to the prior organizational foundation of the Citizens' Council? While the Citizens' Council claimed to sponsor 150 academies throughout the south by 1969, the exact shape of that sponsorship is

vague (Bigart 1969). Only a small percentage of the academies in Mississippi were actual “Council Schools,” and these were concentrated in Jackson, the state capital and the headquarters of the organization. While the Citizens’ Council did not play a direct organizing role in most academies, it did play two pivotal roles. First, the Jackson headquarters “served as ‘a clearing house of information,’ maintaining a register of private schools and available instructors and administrators, as well as potential physical facilities” (McMillen 1971:303). By the mid-1960s, much space in the organization’s monthly newsletter was devoted to articles such as “How to Start a Private School” and “Private Schools Continue to Increase.” The second role played by the Citizens’ Council was the residue of informal ties solidified in many Mississippi communities from earlier organizing. As social movement scholars have noted, one of the most important legacies of a movement organization is the networks left behind when the organization collapses (Tarrow 1998). These ties were also mobilized in the Mississippi Private School Association (MPSA), a statewide organization that linked academies and sponsored activities such as athletic events. The MPSA held its first statewide meeting in 1968 building upon the earlier foundation of the Citizens’ Council and the Council School Foundation (see Carroll 1981; Mathis 1975; Sansing 1975). While historians have had difficulty estimating precisely the impact of the Citizens’ Councils on the development of the academies, I attempt to examine this potential linkage in greater detail.⁸ With this historical background in place, I now turn to the quantitative analysis.

Data and Measures

My empirical questions focus on movement dynamics at the local level. This allows me to examine the substantial variation at the county level within Mississippi. This design strategy of conducting a case study with multiple subunits allows scholars to effectively combine the historian’s concern with case specificity with the more sociological objective of theory building and testing, and this strategy has been used with increasing frequency by historically oriented sociologists (Amenta 1991) and provides a useful model for examining processes of historical change.

For the data set I use counties as the unit of analysis ($N = 81$) for several reasons.⁹ In southern politics counties have much greater political significance than in the politics of other parts of the U.S. (Krane & Shaffer 1992). In addition, the Mississippi movement organized itself county by county and its attempts to build organizational structures occurred at the county level. As a case Mississippi provides significant variation on key variables such as the size of the black population, the presence and strength of local movements, and the amount of change in local schools. The analysis presented here uses OLS regression methods to assess the research questions I have outlined. The variables with source information are given in Table 1. I discuss them in greater detail below.

TABLE 1: Descriptions of Variables Used in Analysis

Variable	Description	Source	Mean	S.D.
Students attending white academies	Number of students attending white academies-grades K-12; selected years	Mississippi St. Dept. of Education, Nonpublic Schools, Selected Years	4.217	2.863
White school-age children	Number of white children in 1970 (ages 5-17)	U.S. Bureau of the Census (1972)	3862.	4111.1
Number of school districts	Number of school districts in county	Mississippi St. Dept. of Education (1971)	1.963	1.077
School expenditure per student, 1969-70	School expenditure per student, 1969-1970	Mississippi St. Dept. of Education (1971)	454.35	74.31
Proportion black among school-age children	Proportion calculated based on 1970 Census data for ages 5-17	U.S. Bureau of the Census (1972)	5.83	12.44
Median white family income	1970 median white family income (calculated)	U.S. Bureau of the Census (1972)	4286.67	9503.57
Prop. white household with annual inc. > \$15,000 (1970)	U.S. Bureau of the Census (1972)		.0883	.0385
Black poverty	Proportion of black households below poverty level, 1970	U.S. Bureau of the Census (1972)	.61	.103
Alexander v. Holmes decision	Dichotomous variable—whether county's school districts were included in <i>Alexander v. Holmes</i> decision	Reported in Munford (1973)	.259	.441
Freedom Summer volunteers	Number of Freedom Summer volunteers working in county, summer 1964	SNCC Papers, Schomburg Center for the Study of Black Culture, A:XV:197, Reel 39	5.83	12.44
Black candidates running for office (1967)	Number of black candidates running for office in the 1967 county and state elections	Mississippi Freedom Democratic Party microfilm collection, Mississippi Dept. of Archives and History, Reel 2; and Rims Barber Papers, Tougaloo College, Box 1, File 7	1.383	2.732
Violent resistance index	Number of incidents of attack/assault on civil rights workers, 1960-9	Colby (1987)	11.53	19.01
Citizen's Council	Dummy variable — whether county had a Citizen's Council organization in January 1956 (earliest date available); 1 = presence, 0 = absence	Citizens' Councils of America (1956)	.69	.46
Ku Klux Klan organization	Presence of organization in county c. 1964	U.S. House of Representatives (1965)	.5	.46

The dependent variable in the analyses below is the natural log of academy enrollments during the 1970–71 school year. I log the dependent variable because preliminary analyses showed that the raw count was sensitive to influential cases.

Control Variables

Three measures are included as control variables. The total number of white school-age children is included as a control for the potential enrollment. Some counties include multiple school districts, and so I have included the number of school districts in the county in each model. Arguably, multiple school districts gives parents a possible institutional mechanism for subverting school desegregation. I have also included a measure of the total expenditure per student in the 1969–70 school year.¹⁰ This tests for another possible argument: that private academies are formed in counties that have underfunded public school systems.

RACIAL STRUCTURE

The percentage of black school-age children and percentage of black households in poverty measure the aggregate characteristics of the population. These measures test two possible arguments. The first variable examines whether counties with relatively larger black populations are more likely to form private academies. The second measure assesses the influence of black poverty as a separate possible determinant of academy enrollments.

COURT INTERVENTION

The *Alexander* decision is measured as a dichotomous variable indicating whether the county's school districts were covered by this major Supreme Court case. This variable allows me to determine whether court intervention has an impact on countermobilization.

CIVIL-RIGHTS AND BLACK ELECTORAL MOBILIZATION

I use two measures to determine the impact of black mobilization on the establishment of academies. Freedom Summer measures the number of staff and volunteers working in the county during the 1964 summer project. I treat the variable as an indicator of the movement infrastructure of the early 1960s. The black candidates variable measures the number of candidates for office in 1967, which was the first set of county elections after the Voting Rights Act of 1965. Even though few black candidates won elected positions, the variable indicates the extent of electoral mobilization in the late 1960s, which represented a potential threat to white electoral power (Andrews 1997).

RESOURCE CAPACITY OF WHITE COMMUNITY

I use two variables to measure the resource capacity of the white population in a county. I measure the median white household income and the proportion of households with annual incomes above \$15,000. The academies required a minimum number of students whose parents could afford the tuition. As noted, the academies often benefited from large outlays of capital for buildings, land, and equipment. The second measure is an indicator of the potential resources for this type of support.

PRIOR COUNTERMOBILIZATION

Finally, I include three measures of prior countermovement activity. The Citizens' Council measure is a dichotomous variable indicating presence or absence of a chapter in the county. The measure is recorded in 1956 when the Citizens' Council presented this information in its monthly magazine. Ideally, I would prefer an indicator closer in time to the formation of the academies, that is, from the mid-1960s. However, I believe the 1956 measure is still valuable because it tells us whether the same counties that had organized resistance to desegregation in the 1950s were similarly organized in the late 1960s and early 1970s. I include a similar measure for the presence of a Ku Klux Klan organization in the early 1960s. The Citizens' Council and Klan measures provide indicators of the two main organizations that attempted to mobilize against the civil-rights movement in Mississippi. The violence index is a composite measure of violent incidents compiled by Colby (1987). This measure covers the period from 1960 to 1969 and includes incidents of violence toward civil-rights workers in the county. Colby's sources include the archival collections of the major civil-rights organizations and newspaper coverage.

Analysis

The first piece of the analysis presented in this article is a preliminary description of the historical trend for academy expansion. Figure 1 presents annual totals of the number of students attending academies and other private schools (primarily parochial schools).¹¹ Notice in particular the striking increase in the enrollments for the 1969–70 school year over the 1968–69 year. Enrollments nearly quadrupled and were followed by substantial increases in the early 1970s. The figure also shows that the growth occurred through the formation of new institutions rather than the expansion of established institutions, such as Catholic schools. The enrollments in nonacademies remain relatively constant throughout this period (see also Nevin & Bills 1976).

TABLE 2: OLS Regression Analysis for Number of Students Attending Academies, 1970-1971

	Dependent Variable Academy Attendance 1970-71 (Logged)
Independent variables	
Number of white school-age children 5-17 (1970)	8.543E-06 (.000)
Number of school districts (1969-70)	-.431* (.244)
Proportion black among school- age children (1970)	10.835*** (2.126)
School expenditure per student (1969-70)	-5.59E-05 (.003)
Proportion of black households in poverty (1970)	-5.169 (3.705)
Median white household income (1970)	2.092E-04 (.000)
Proportion of white household with annual income above \$15,000 (1970)	7.877 (9.750)
<i>Alexander v. Holmes</i> (1969) — whether county was covered by Supreme Court decision	2.505** (.605)
Number of Freedom Summer staff and volunteers (1964)	.044* (.024)
Number of black candidates running for office (1967)	-.163 (.099)
Violent resistance index (1960-69)	-.014 (.014)
Citizen's Council organization (1956)	.915* (.487)
Ku Klux Klan organization (1964)	.961* (.498)
Constant	-2.219 (-3.409)
R ²	.689
Adjusted R ²	.628

* p < .05 ** p < .01 *** p < .001 (one-tailed tests)

Some studies of white flight find that after the implementation year a substantial number of whites reenter the public school system, offsetting some of the initial enrollment decline (Rossell 1983). The aggregate data suggest that this was not the case in Mississippi. In general, the academies that were established and survived several years were likely to continue beyond the 1970s.

By fall 1970 the desegregation orders that applied to the *Alexander* school districts were affecting many more school districts. The wider application of the decision accounts for the fact that the aggregate pattern observed in Figure 1 shows a substantial lift in the 1969–70 school year followed by a near doubling of enrollments for the 1970–71 year. This makes the 1970–71 school year the pivotal year for the establishment of academies. Table 2 presents an OLS regression model predicting the logged number of students attending private academies in a county for the 1970–71 school year.¹²

The proportion of black school-age children has a statistically significant relationship to white academy enrollment in the model.¹³ The data presented here lend support to the argument that aggregate characteristics of the populations shape white responses to school desegregation. Further, the data support Olzak, Shanahan, and West's (1994) "competition theory," which states that "competition is maximized when ethnic and racial groups occupy overlapping regions of social structure" (201). In their study of antibusing protest, Olzak, Shanahan, and West find that potential competition results in protest campaigns. In Mississippi, the prospect of competition results in widespread abandonment of public schools, which required extensive mobilization.

The number of school districts has a statistically significant negative effect on academy enrollment. I suspect that this result arises because in counties with multiple districts there were other avenues available for whites to subvert desegregation orders: for example, if district lines could be drawn to place racially identifiable areas of a county in separate districts. To systematically evaluate this interpretation, I would require more detailed data on the composition of districts and the strategies of parents and school authorities within those districts.

I do not find support for the argument that countermobilization was shaped by the relative proportion of blacks in poverty. The measures of resource capacity (median white household income and proportion of white households with income above \$15,000) are nonsignificant. This is surprising, considering the financial costs of establishing academies. Apparently the key issue was organizational rather than the level of economic resources for white households. Finally, the level of school expenditures does not have a statistically significant effect on academy enrollment.

Political Processes:

Court Intervention, White Mobilization, and Local Insurgency

A central claim of this article is that white flight cannot be explained by reference to latent structural characteristics alone. The model examines the impacts of distinct forms of political action on the formation of academies. The counties covered by the *Alexander v. Holmes* case had significantly higher enrollments than counties not covered by the decision. Academy supporters may have received a tactical advantage in the establishment of academies. These counties were part of one of the key desegregation decisions to go before the Supreme Court and received enormous public attention. The weightiness of the situation combined with an external actor to mobilize against seem to have given local countermovements a ripe context within which to organize. In addition, the final decision called for desegregation to take place at the beginning of the second semester; the disruptiveness of the proposed plan may have provided extra incentive to those tempted to organize a private academy or send their children to one. In the covered counties during the first half of 1970, whites were likely to be busy organizing academies while their counterparts in the counties not covered were watching to see what happened next.¹⁴ One academy supporter noted that the court orders "gave us five to ten years of growth compressed into one year" (Nevin & Bills 1976:25).

Is the development of academies part of a broader pattern of countermovement within the county? In the regression model, the presence of a Citizens' Council organization and a Ku Klux Klan organization are statistically significant independent variables. The link between prior organization and academies conforms to the prediction of resource mobilization theory that the formal and informal linkages between activists is a key resource for movements. The case of Mississippi academies suggests that this is true for countermovements and fits the pattern found in studies of antibusing movements (Taylor 1986; Useem 1980). With the available data it is impossible to determine whether these organizations played a direct or an indirect role. As my comments above indicate, I believe the Citizens' Councils played a modest direct role, but the primary contribution made by both organizations was through the informal ties established within the county.

Next consider the measures of black mobilization. Using the Freedom Summer variable, counties with greater levels of social movement mobilization in the 1960s had higher academy enrollments. The measure of black electoral mobilization is not significant, and, contrary to my expectations, the coefficient is negative. The fact that very few black candidates won elections in the 1967 elections may have made electoral politics appear less than threatening. In contrast, Freedom Summer and the civil-rights movement more generally was pivotal in many Mississippi counties. Arguably, the noninstitutionalized mobilization represented by the civil-rights movement generated greater uncertainty in a way that electoral mobilization did not. Nevertheless, the argument advanced at the beginning of the article that academies are the outcome of movement-counter movement dynamics is

supported by these data. Social movements increase the level of white resistance, creating the solidarity necessary for later backlash. Scholars have found a similar phenomenon occurred with voter registration: increases in black voter registration escalated white voter registration (Alt 1992). These findings underscore the need for attention to the interaction between movements and countermovements to understand their enduring consequences.

In sum, I find that the following measures have statistically significant effects: countermovement organization (Citizens' Council and Ku Klux Klan), court intervention (*Alexander v. Holmes*), civil-rights mobilization (Freedom Summer), the proportion of black school-age children, and the number of school districts. In addition, some of my theoretical expectations were not supported — in particular, that greater levels of black poverty, greater levels of white resource capacity, and greater levels of black electoral mobilization would be positively related to countermobilization. In sum, the analysis supports competition theory and demonstrates that insights derived from social movement theory help explain patterns of white countermobilization.

Discussion

The research presented in this article addresses several unresolved theoretical debates in the study of social movements and provides further insights into the process of institutional formation and social change. Patterns of racial contention are shaped by racial competition as proposed by ecological theories. However, political processes and movement dynamics have effects independent of these aggregate structural characteristics. The primary questions addressed here concern the relations between social movements, the political opportunity structure, and institutional outcomes. This article helps clarify these questions by combining the strengths of an in-depth analysis of the Mississippi case with a quantitative analysis of county-level data.

The research presented here demonstrates that strategies of white resistance were shaped by broad features of the local social structure — in this case, the relative size of the black population. The salience of this factor may model perceived threat of interracial contact in schools, or it could be related to the indirect factor of white institutional control of schools and an electoral-political threat to white political dominance at the municipal and county level.

Aggregate structural characteristics are important but provide incomplete explanations of this particular case of countermobilization. This study finds support for the arguments of social movement theorists (especially political process and resource mobilization) as explanations of white resistance to desegregation. As political process arguments would suggest, the Supreme Court's *Alexander v. Holmes* decision had differential effects for Mississippi school districts that is reflected in

the higher levels of support for academies in the covered counties. The decision provided a window of opportunity when a new pathway of institutionalized resistance was open to would-be challengers. This study finds that the organizational capacity of movements and countermovements shape the extent of white resistance to school desegregation. Some scholars have noted that the process of movement mobilization sets in motion the process of countermobilization (Lo 1982; Luker 1984; Meyer & Staggenborg 1996; Schwartz 1976; Zald & Useem 1987). However, few have specified beyond a narrative or descriptive level the interactive aspects of this process and the outcomes generated by these dynamics. Further, analyses of movement consequences have most often examined impacts that fall within the broad goals of movement actors. This study shows that we should focus as well on the unintended consequences of movement-counter movement dynamics.

By focusing on the process of institution building and transformation, this article challenges prior research that focuses on education and white flight after the institutions have been established. Once a county had established a set of private schools, little change took place. The period of crisis presented a window of opportunity in which one dimension of a county's social structure could undergo significant change. In short, the formation of new institutions requires a historical explanation that accounts for the social and political origins of the institutions.

McAdam (1982) observes in his study of black insurgency that contrary to elite theory's "image of an elite comfortably in control of the political environment, it would seem more accurate to see the elite as a harried group scrambling to manage or contain numerous challenges that arise to threaten the fundamental prerogatives of class rule" (233). This insight dovetails with the analysis presented here. In short, this study cautions against an overly voluntarist view of historical processes that fails to consider the way strategic decisions are shaped by political institutions and conflict dynamics. When social movements directly or indirectly challenge the prevailing structures of inequality, local powerholders typically respond by defending existing institutions or by attempting to reconstitute institutional control in new venues. In similar fashion, the white academies were the outcome of long-term and short-term processes of political contention at the local and regional level.

Notes

1. In urban areas and in the North, resistance took other forms, for example, mass demonstrations (Olzak, Shanahan & West 1994) and the shifting of school district boundaries (James 1989).

2. Figure 1 is discussed in greater detail later in the article. I have separated enrollment in the private academies from other private schools (the most important example being Catholic schools that predated the academies). These other private schools were not used widely for resisting school integration.

3. It is not surprising that the establishment of private all-white academies created a new set of tactical dilemmas for the civil rights movement. The most important was how to stop the flow of public resources into the private school system.
4. However, there is substantial evidence that movement leadership in antibusing movements had an elite base (Mottl 1980; Zald & Useem 1987).
5. For studies examining the impact of the Mississippi movement on electoral politics, see Andrews (1997), Colby (1986), and Stewart and Sheffield (1987); on social policies, see Andrews (2001), Quadagno (1994), and Colby (1985).
6. Aiken and Demerath's study (1967) of two Mississippi counties documents the general problems of the "freedom of choice" plans.
7. Three of the boards of education named in the *Alexander* case controlled only transportation systems (Munford 1973).
8. As noted earlier, movements often change their goals over the course of their development. In the case of the Citizens' Council, it is both interesting and revealing that the primary goal of the organization had shifted in slightly more than ten years from a thorough defense of segregated public institutions to a rearguard attempt to establish private institutions.
9. I have excluded Hinds County from the OLS regression analysis reported here. Hinds County is an outlier because of its large population size, so its inclusion biases the estimates of the models presented here. In the models, residual values are beyond three standard deviations from the predicted values.
10. I also ran the models with a variable measuring the total instructional expenditure per student. Arguably, parents would be more concerned with funds directed toward the classroom than with total funds. However, the two indicators produce very comparable results because they are so highly correlated ($R^2 = .96$).
11. Operationally, academies are defined by their membership in the Mississippi Private School Association; see the description in the text. The data set excludes enrollment figures for parochial and all-black private schools. Enrollments at parochial schools remained relatively constant before and after 1969 and was not the strategy pursued by whites resisting school desegregation in Mississippi. For the most part this is because parochial schools were concentrated in counties other than the counties where academies were established in the late 1960s and early 1970s.
12. Variance Inflation Factors (VIFs) for the model suggest that multicollinearity is not significant. I ran additional models to test for spatial autocorrelation using SPACESTAT (see Amenta, Dunleavy & Bernstein 1994 for an example). The spatial error term was nonsignificant (results available from author).
13. A measure of the black proportion of the voting age population would produce similar effects, making it impossible to determine whether white support for academies is shaped by white fear of integrated education or of a more indirect fear of black political/electoral power. The underlying threat could have been the concern that a majority black electorate would elect blacks to key positions in school districts, counties, and municipalities and thereby gain greater control of public institutions.

14. There has been substantial research on the impacts of law on social movements (see Rosenberg 1991). One of the major constraints of law as a mechanism of change is that court orders often lack an effective institution to oversee and enforce decisions. The *Alexander* decision may be unique because of the extensive interaction between HEW, the Justice Department, and the courts. For that reason, it would be inaccurate to attribute the effects of the *Alexander* decision measured in the models to the courts exclusively. Rather, there was a coordinated federal effort in these counties greater than was present in other locales.

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The Residential Preferences of Blacks: Do They Explain Persistent Segregation?*

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Abstract

For many decades, it has been argued that the U.S. remains racially segregated because of discrimination in the real-estate market reflecting whites' desire to isolate themselves from African Americans. The merely modest declines in black-white segregation since the prohibition of such discrimination in 1968 have provoked a competing hypothesis: residential segregation persists because blacks prefer to live in racially isolated neighborhoods and are reluctant to live in largely white areas. These ideas have not been subject to empirical scrutiny.

We use open- and closed-ended survey data from more than 2,000 African Americans in the Multi-City Study of Urban Inequality to examine blacks' preferences and the important related issue of what drives those preferences. We find that African Americans overwhelmingly prefer 50-50 areas, a density far too high for most whites — but their preferences are driven not by solidarity or neutral ethnocentrism but by fears of white hostility. Moreover, almost all blacks are willing to move into largely white areas if there is a visible black presence. White preferences also play a key role, since whites are reluctant to move into neighborhoods with more than a few African Americans.

There is considerable psychological safety in the ghetto; there one lives among one's own and does not risk rejection among strangers. . . . Most Negroes take the first steps into an integrated society tentatively and torn with conflict. . . . A

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person who has been forced to be ashamed of his identity cannot easily accept himself as a human being and surrender either the supportive group identification or hostility toward those who have rejected him. (Clark 1965:19–20)

THE CURRENT CONTROVERSY ABOUT THE CAUSES OF PERSISTENT RACIAL RESIDENTIAL SEGREGATION

Since the Taeubers (1965) published their innovative book based on the 1960 census, numerous studies have documented that blacks and whites seldom share the same neighborhoods within the nation's large metropolitan areas. Racial segregation is so extensive and persistent that the term "American apartheid" — popularized by Douglas Massey and Nancy Denton (1993) — is now frequently used to describe urban America.

For several decades, there was consensus among scholars that neighborhood segregation came about and continues because of the unwillingness of whites to accept African Americans as neighbors or to move into areas that either have black residents or are seen as open to blacks. Ever since African Americans moved to cities early in the twentieth century, whites developed a variety of strategies to enforce their preferences: laws mandating segregation, restrictive covenants, redlining, and discriminatory marketing practices. Although these practices were outlawed by Supreme Court decisions and the Fair Housing Act of 1968, numerous local studies and two national investigations sponsored by the Department of Housing and Urban Development found that black and white home seekers continued to be treated differently in the housing market. Recent studies report substantial racial disparities in obtaining mortgages and home insurance (Goering & Wienk 1996). In light of those findings, Massey and Denton (1993) and John Yinger (1995) strongly recommend stricter enforcement of antidiscrimination laws. They presume that if there were equal opportunities in the housing market, African Americans would move into integrated neighborhoods and thereby segregation would decline.

More recently, Orlando Patterson (1997) and the Thernstroms (1997) refute this view. They blame persistent segregation on the strongly held preferences of African Americans. They cite evidence about the increasingly egalitarian racial attitudes of whites, specifically, the greater tolerance of whites for black neighbors and the growing reported willingness of whites to consider moving into neighborhoods that already have black residents. They contend that whites are not to blame for continuing segregation. Instead, they stress that surveys consistently report that blacks prefer to live with their own race and emphasize that black preferences for residential segregation have *not* changed over time. For example, the Thernstroms report that in 1964 only 4% of African Americans wished to live in majority-white neighborhoods; by 1982 this had increased to only 5%. Neighborhoods remain segregated, they argue, because African Americans

overwhelmingly prefer majority black areas or locations that are 50–50. After reviewing such evidence, Patterson (1997:46) concluded: “The answer which liberal students of segregation repeatedly insist on sidestepping is that persisting segregation is partly — and for most middle class Afro-Americans, largely — a voluntary phenomenon.” This reasoning leads to the conclusion that even if real-estate brokers and lenders treat blacks and whites identically, segregation will persist, since blacks prefer to live with African Americans.

Which of these competing hypotheses is correct? Are the nation’s metropolises segregated because whites keep neighborhoods white through their own decisions and by encouraging discrimination in the housing market? Or does segregation persist because blacks choose to live with their own race? This article systematically explores the second of these possibilities — the claim that African American preferences are incompatible with declines in racial residential segregation. Our data do not allow us to quantify the specific impact of preferences — as compared to institutional and individual discrimination — in continued residential segregation. What we do, however, is scrutinize the patterns and the apparent motivational bases of African American preferences to ascertain whether they are consistent with the increasingly popular conclusion that these preferences, derived from “neutral ethnocentrism,” are primarily responsible for persisting segregation. We accomplish this by providing a new and fuller understanding of how blacks view their choices in the current housing market.

First, we use the traditional neighborhood preference questions that ask African Americans to rank-order, from most to least attractive, neighborhoods of various racial compositions. Second, we investigate a different measure of residential preferences — one that has not yet been used to address the current controversy. Specifically, we analyze the willingness of African Americans to live in neighborhoods of various racial compositions as an alternative way to describe their preferences. Third, we consider what forces — social, demographic, and social psychological — underlie African American preferences. In doing so, we push the examination of preferences beyond the demographic issue of how many blacks prefer to live with how many African American neighbors. The question becomes, What shapes these preferences, and is it appropriate to characterize them as benign and “voluntary”? This is done through both quantitative analyses using multivariate regression models and a systematic analysis of open-ended survey questions that ask blacks to explain their preferences.

Residential patterns reflect, of course, not just the preferences of one race. Several analyses describe the increasing tendency of whites to agree with the principle that blacks should be able to live wherever they can afford and the rising approval of whites for open-housing laws (Schuman et al. 1997). Time-series data from the Detroit area also demonstrate an increasing willingness of whites to remain in their neighborhoods as blacks enter (Farley et al. 1994). However, this article does not examine white preferences in detail. Our aim is to examine African

American preferences, which are seldom scrutinized but frequently asserted to be the driving force behind continued residential segregation. While our central aim is to contribute to this debate by providing a richer, more complex understanding of blacks' housing choices, we also place our findings in the context of white preferences.

Background

For more than twenty years, investigations of African Americans' residential preferences have agreed upon one salient finding — given their choice of neighborhoods, blacks would select an integrated location but one that is 50–50 or has a slight predominance of blacks (Farley, Fielding & Krysan 1997; Farley et al. 1978; Farley et al. 1994; Schuman et al. 1997; Zubrinsky & Bobo 1996). These choices have been trumpeted by those most vocal about the role of black residential preferences in perpetuating segregation. Seldom considered, however, are other indicators of preferences, and even less often addressed is the important question of what underlies the preference of blacks for a substantial number of same-race neighbors. The answers to both these questions have important implications both for how black preferences fit into the complex array of factors that perpetuate racial residential segregation and for the efforts that might reduce it.¹

The first issue is how to conceptualize residential preferences. Typically these have been measured in terms of the “most attractive” neighborhood. African Americans are given a range of options and asked to select the racial composition of the neighborhood they would consider ideal. The majority of African Americans, presented with these alternatives, select the 50–50 neighborhood. However, we know from research on white preferences that few whites will tolerate such neighborhoods. We also know that realistically, most African American home seekers generally have two choices: almost-all-black neighborhoods or neighborhoods with a just a few or no other African Americans. Indeed, Cutler, Glaeser & Vigdor (1999) analyzed the racial composition of 44,000 census tracts in the metropolitan U.S. in 1990 and found that only 11% of those tracts had a black composition ranging between 25 and 75%, so a 50–50 neighborhood must be extremely rare. Data from the 2000 census (Glaeser & Vigdor 2001) show little change in this pattern.

Given these constraints in the available pool of neighborhoods, it is important to ask about the willingness of African Americans to enter neighborhoods that are not at the top of their list — but are more likely to be options in any given housing market. With respect to reducing segregation, there is the important question of the willingness of African Americans to move into all-white neighborhoods. This is particularly relevant, since nearly one-third of the census tracts in the nation's metropolises in 1990 were less than 1% black (by 2000, this number had dropped somewhat to just about one-quarter). Indeed, one census tract in eight had no black

resident in 1990 (Cutler, Glaeser & Vigdor 1999; Glaeser & Vigdor 2001). The willingness or reluctance of blacks to move into racially homogeneous tracts is of interest for the insight it sheds on the prospects for heightened segregation or increases in integration.

Just as important as identifying the distinction between the “attractiveness” as against “willingness” dimensions of racial residential preferences are answers to the question of the reasons underlying these preferences. Answers to this question are typically speculative, but the existing literature offers several possible theoretical explanations for the racial residential preferences of African Americans. The explanations can be divided into three categories: social psychological, socioeconomic, and demographic.

SOCIAL PSYCHOLOGICAL INTERPRETATIONS OF RACIAL RESIDENTIAL PREFERENCES

One fundamental debate about African American racial residential preferences — and one with perhaps the most important policy implications — hinges on whether preferences are shaped by a desire to be with one’s “own kind” or to avoid being around the “other.” On the one hand, a leading proponent of the preference argument — William Clark (1991) — argues that the foundation of residential preferences is a “neutral ethnocentrism” that is based on benign and positive feelings toward one’s own race. Specifically, segregation is due to a universal preference among people of all races and ethnicities to live around others of “their own kind,” because of a shared “preference for living and socializing with neighbors of similar class and interests” (Clark 1991:17). He argues that African Americans prefer to live around other African Americans because of feelings of cultural similarity and positive in-group sentiment. That is, an “in-group attraction.” Patterson (1997) and Thernstrom and Thernstrom (1997) make a similar argument about the motivations for African American preferences.

Related to this is the possibility that African American residential preferences are derived from a sense of racial pride and a desire to preserve black institutions (Feagin & Sikes 1994). In other words, African Americans prefer to live in heavily black neighborhoods because of an interest in the development of their own race and out of a sense of group solidarity. These motivations are different from the neutral ethnocentrism interpretation, but they are nevertheless shaped by concerns about and feelings toward one’s own group rather than toward the “out-group.”

On the other hand, others have suggested that preferences are shaped not by an attraction to or interest in the development of one’s own group, but by a desire to avoid the “other” group. In the case of African Americans, the desire to avoid whites is thought to be embedded in experiences of prejudice and discrimination at the hands of whites or white institutions. According to this perspective, black objections to neighborhoods with high proportions of whites are driven by perceptions of the discrimination they expect to find there (Bobo & Zubrinsky 1996; Feagin & Sikes

1994). The nature of that discrimination or hostility could be interpersonal, and focused on individual whites, or it could be based on institutional level discrimination, such as real-estate and banking practices. In both cases, African Americans who perceive higher levels of either institutional or individual discrimination will be less interested in living in integrated neighborhoods because they either do not want to live in communities with whites who will be hostile toward them or perceive institutional barriers to moving into majority white neighborhoods.

The existing empirical evidence about each of these interpretations for understanding the social psychological motivations underlying the racial residential preferences of African Americans is sparse. While Clark (1991) does not provide a direct empirical test of the “neutral ethnocentrism” interpretation, Bobo and Zubrinsky (1996) find that African American preferences in Los Angeles are *not* importantly related to one’s feelings of warmth and affiliation with other blacks. Instead, affect toward whites — in the form of blacks’ ratings of whites on a feeling thermometer scale — was a strong predictor of black neighborhood preferences. The lower blacks rated whites on that evaluative scale, the less they wished to live with whites (Bobo & Zubrinsky 1996). Their findings, then, support an out-group avoidance interpretation over an in-group attraction.

Feagin and Sikes (1994), by contrast, found evidence in their qualitative interviews with members of the black middle class for a range of motivations underlying residential preferences. They conclude:

The majority of middle class black Americans live in substantially black or resegregating residential areas. Some choose black communities because of fear of whites; others, out of pride and yet others out of a concern for preserving black institutions. (p. 264)

According to Feagin and Sikes (1994), African American preferences for neighborhoods with a heavy representation of African Americans are based on concerns about both white hostility and racial pride. Although Feagin and Sikes (1994) present valuable and vivid images of middle-class black life and the frequency with which these blacks face white hostility, their data — in-depth interviews with small and nonrepresentative samples — do not allow a determination of the prevalence of these three motivations for black residential preferences. Accordingly, it is difficult to ascertain the degree to which these three motivations exist in the general African American population.

Finally, Thernstrom and Thernstrom (1997) explore the possibility that African Americans are motivated by fears of white hostility but dismiss this interpretation in favor of other explanations. They argue that, while a 1976 Detroit study showed that blacks were apprehensive about living among whites out of a concern for their comfort and safety, they presume that by the mid-1990s these worries of blacks should have dissipated. They explain:

If . . . fears of being cold-shouldered or worse had been the main deterrent to black movement into largely white neighborhoods . . . blacks in the Detroit metropolitan area should have shown greater willingness to enter white sections after 1976. White receptivity to having black neighbors certainly increased, and African Americans should have been able to discern the changes. (p. 228)

Unfortunately, the Thernstroms' assertions are speculative; they provide no evidence about why African Americans, in the 1990s, prefer the neighborhoods they do. Clearly, they favor the "neutral ethnocentrism" interpretation, but their data do not allow us to rule out the possibility that African Americans' disinterest in majority-white neighborhoods is due to concerns about hostility and discrimination from whites.

Clearly, more data need to be brought to bear on the question of the social psychological underpinnings of African American residential preferences in order to adjudicate between these competing interpretations. In this article, we compare the "in-group attraction" versus "out-group hostility" interpretations for racial residential preferences.

DEMOGRAPHIC AND SOCIOECONOMIC INTERPRETATIONS OF RESIDENTIAL PREFERENCES

In addition to social psychological predictors of racial residential preferences, the research literature suggests that demographic and socioeconomic characteristics may be important in shaping preferences. For example, among whites, cohort differences in racial values and attitudes are large: those whites who entered and completed school after the civil-rights revolution typically subscribe to more egalitarian attitudes than do those born before then. Similarly, studies of whites have found significant gender differences in some racial attitudes (Schuman et al. 1997). These demographic predictors, however, have not received much attention in the existing literature on African American racial attitudes in general (though an exception is Johnson & Marini 1998, who show a gender effect among African American youth) nor in the literature on residential preferences in particular. In this study, we explore the possibility that cohort and gender are both important characteristics that shape the residential preferences of African Americans, much as they do for whites.

There is also speculation that the residential preferences of African Americans are shaped importantly by their social-class background, though the expectations are mixed. On the one hand, Feagin and Sikes (1994) suggest that middle-class blacks seek to live in all-black neighborhoods because of a desire to escape what they call "white overload" — that is, a desire by middle-class blacks to escape the virtually all-white environments in which they work. Thernstrom and Thernstrom (1997), on the other hand, cite journalistic accounts and propose the opposite. They contend that middle-class African Americans seek to escape problem-ridden "black" neighborhoods just as whites do. They conclude, "The views of middle class

blacks, then, are not basically different from those of whites" (223). From both perspectives, however, social class is thought to play an important role in defining the residential preferences of African Americans. We include measures that allow us to assess the possible role of social class in shaping preferences.

As noted earlier, we are examining two indicators of preferences: the "most attractive" racial composition and the "willingness" to live in various neighborhoods. It is conceivable that the factors just described — social psychological, demographic, and socioeconomic — will operate differently for these two measures of preferences. For example, group solidarity may determine whether, given a choice, an African American would consider an all-black neighborhood to be the most desirable. On the other hand, it may be that perceptions of discrimination and hostility by whites may be important factors in determining whether an African American would, nevertheless, be willing to consider living in a majority white neighborhood.

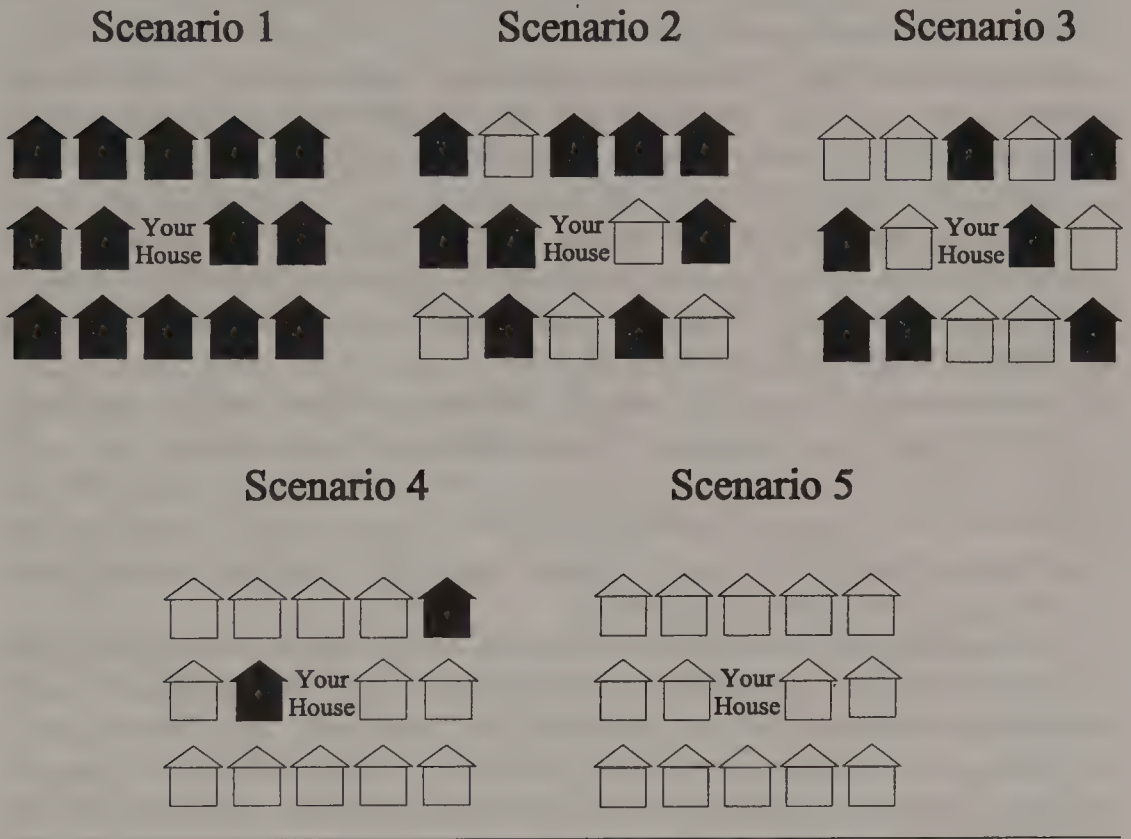
In sum, this study fills gaps in our understanding of black residential preferences by drawing on both quantitative and qualitative information to investigate the patterns of preferences and the utility of the proposed social psychological, demographic, and socioeconomic explanations of black residential preferences. First, we systematically analyze responses to two open-ended follow-up questions in which blacks explained and elaborated upon their preferences. Second, we incorporate quantitative indicators of social psychological, economic, and demographic characteristics to test hypotheses about African American's neighborhood preferences — both those they find most attractive and those they are willing to move into.

Data and Methods

The Multi-City Study of Urban Inequality (MCSUI) carried out face-to-face interviews with approximately 9,000 randomly selected adults in metropolitan Atlanta, Boston, Detroit, and Los Angeles in the mid-1990s (Bluestone & Stevenson 2000; Bobo et al. 2000; Farley, Danziger & Holzer 2000; O'Connor, Tilly & Bobo 2000; Sjoquist, 2000). One of the major goals was to examine the causes of continued racial residential segregation, and so numerous questions were asked about the types of neighborhoods blacks found most attractive and why and which types of neighborhoods they would be willing to move into should they find an attractive, affordable home there. The sample of 2,040 African Americans used in this analysis was based on a multistage area probability sample in which blacks were oversampled in every site.²

Residential preferences were measured with a hypothetical neighborhood technique. African Americans were handed a set of five cards depicting neighborhoods containing fourteen homes each. They were asked to imagine that they had been looking for a house and found a nice one they could afford. They

FIGURE 1: Neighborhood Cards Used to Measure African American Residential Preferences in the Multicity Study of Urban Inequality



were told it could be located in any of the neighborhoods shown on the five cards, which ranged from all-black to all-white with three racially mixed neighborhoods in between as illustrated in Figure 1. Respondents were asked to arrange the cards in order from the one they found most attractive to the one they considered least attractive. After interviewers recorded their preferences, respondents were given the neighborhood cards a second time, and were asked “Are there any of the five neighborhoods you would *not want to move into*?” In asking this, we determined the preferences of African Americans for neighborhoods with different degrees of integration and the important related issue of their views about which neighborhoods they would be willing to move into if they found an affordable, attractive home there.

Two dependent variables were constructed from this series of questions. Our first set of analyses uses the racial composition of the respondent’s top-choice neighborhood as the dependent variable. Although the neighborhood cards represented increasing proportions of whites relative to blacks, they do not include all possible black–white combinations, and so there are gaps — for example, from

scenario 3 to 4, the number of African Americans drops from 7 to 2. For this reason, as well as the possibility that African American preferences are not monotonically related to racial composition in the same way that whites are, we treated our top-choice measure as a nominal variable. Because a tiny proportion of African American respondents selected the all-white (14–0) and majority-white (12–2) neighborhoods as their top choices, we collapsed scenarios 4 and 5 into a single majority white category, creating a four-category nominal variable for use in a multinomial logit analysis. The categories of our dependent variable are

- all black (scenario 1)
- majority black (scenario 2, which is 10 black and 4 white families)
- evenly split or 50–50 (scenario 3, which is 7 black and 7 white families)
- majority white (scenarios 4 and 5, which are 2 black and 12 white and 0 black and 14 white, respectively)

By constructing our dependent variable in this way, we did not make assumptions about its linearity nor about the missing neighborhood compositions (e.g., 3–11; 4–10). For the purposes of our analyses, the comparison group consists of those respondents selecting the 7–7 neighborhood, so that our analysis distinguishes the features that characterize those African Americans whose first-choice neighborhood is something other than the 50–50 area.

The second measure of preferences shifts the focus from the neighborhood identified as the most attractive or ideal to the question of whether blacks would be *willing* to live in various types of neighborhoods. We focus, here, on willingness of blacks to live in an all-white or all-black neighborhood. This second analysis expands our understanding of black preferences beyond the neighborhood considered most attractive to include information about the willingness to live in other types of neighborhoods — indeed, in the kinds of neighborhoods that, realistically, are much more available than the “ideal” 50–50 community. From these questions we construct two dichotomous variables: one distinguishes between those who are willing to move into an all-white neighborhood (assigned the value of 1) and those who are not (assigned a value of 0); a second distinguishes between those willing to move into an all-black neighborhood (assigned the value of 1) and those who are not (assigned a value of 0).

OPEN-ENDED DATA FOR UNDERSTANDING THE FACTORS UNDERLYING AFRICAN AMERICAN RESIDENTIAL PREFERENCES

To understand how people think about residential preferences, and in order to examine the prevalence of the competing social psychological explanations, the MCSUI investigation added open-ended follow-up questions in which respondents were asked to elaborate and explain some of their residential choices. For example, after arranging the neighborhood cards from most to least attractive, the interviewer pointed to the top choice and asked black respondents, “Could you tell me why

you think it is the most attractive neighborhood?" Then, after being asked about their willingness to move into various neighborhoods, those respondents who stated they would be unwilling to move into either an all-black or an all-white neighborhood were asked "Why wouldn't you move into an (all-white/all-black) neighborhood?"

Verbatim responses to these questions were recorded by interviewers and entered into FoxPro, a relational database used to facilitate the coding of open-ended data. A complex coding scheme was created to capture the full range of responses — with multiple themes allowed for all respondents. For this analysis, these schemes were simplified into a hierarchical coding system so that priority was given to certain types of responses and only a single theme was coded for each respondent. A detailed description of the codes used for each item is provided in Appendix A.³ Our analysis of the open-ended data describes the main reasons African Americans give when they explain why they find a particular neighborhood most attractive and why they are unwilling to move into either an all-white or an all-black neighborhood.

QUANTITATIVE PREDICTORS OF THE RESIDENTIAL PREFERENCES OF AFRICAN AMERICANS

We complement the open-ended data with multivariate analyses that examine the social, demographic, and social psychological predictors of our two measures of blacks' residential preferences. On the basis of previous studies, we hypothesize that three categories of factors influence the preferences of African Americans. The first are the social psychological dimensions clustered around how blacks view their own race and how they view whites, as well as perceptions of the degree of institutional and interpersonal discrimination against African Americans. The other two are socioeconomic and demographic factors.

Social Psychological Predictors of Residential Preferences

For this analysis, measures of respondents' perceptions of two types of discrimination were included. The first is institutionalized discrimination and taps respondents' assessments of the extent of discrimination against blacks in the job market as well as the degree to which they attribute poor quality housing for blacks to discriminatory treatment by real-estate brokers and lenders. The second is interpersonal discrimination, which focuses on individual whites and the extent to which African Americans believe that individual whites are more difficult to get along with than blacks and the degree to which they think individual white property owners discriminate against blacks when blacks search for housing. Our hypothesis is that blacks who believe there is a great deal of both institutionalized and individual discrimination will find integrated neighborhoods less attractive and will be less willing to move into all-white neighborhoods.

Five items in the MCSUI survey tap these two dimensions of how blacks perceive discrimination. First, respondents were asked about various institutions — the labor market, the real-estate industry, and banking — and the degree to which they thought these institutions discriminate against African Americans (Appendix B presents the specific wordings of the survey questions). Second, black perceptions of individual whites were measured by two items. One asked blacks how often they thought that African Americans missed out on good housing because individual white property owners refused to rent or sell to blacks. The other asked blacks to rate their own race and then rate whites as a race on a seven-point scale ranging from “tends to be easy to get along with” to “tends to be hard to get along with.” The difference between the rating blacks gave to whites as a race and the rating they gave to their own race constitutes the degree to which blacks thought of whites as more difficult to get along with than blacks. Presumably, African Americans that generally find whites difficult to get along with will prefer to live with black neighbors rather than with whites and will be more willing to move into an all-black neighborhood and less willing to pioneer an all-white one.

While the anticipation of discrimination on the part of whites may lead some blacks to avoid white neighbors, others may prefer neighborhoods with a higher proportion of African Americans because it maintains a connection to their own race. The MCSUI survey included a key question to tap an important dimension of group solidarity and racial identity: “Do you think that what happens generally to black people in this country will have something to do with what happens in your life? If yes, will it affect you a lot, some or not very much?” (Dawson 1994; Gurin, Hatchett & Jackson 1989; Tate 1994). To the degree that the residential preferences of blacks are driven by a sense of group solidarity, we expect that African Americans who view their own fate as closely connected to the fate of their race will find neighborhoods with higher proportions of blacks attractive and will be more willing to live in all-black neighborhoods.⁴

Demographic Predictors of Residential Preferences

Studies of racial attitudes suggest that gender and age will be important predictors of racial residential preferences. For this reason men are distinguished from women in our analysis, and we include a series of dummy variables corresponding to age groups in order to assess cohort differences. Finally, because these data come from four sites with very different demographic histories and different traditions of racial strife, dichotomous variables identify each metropolis.

Socioeconomic Predictors of Residential Preferences

To test the conflicting hypotheses about the role of social class in shaping African American preferences, we include in this analysis measures of economic and social

TABLE 1: Attractiveness Ratings of Neighborhoods by Racial Composition and Rank Order (Black Respondents)

	First Choice Percent	Second Choice Percent	Third Choice Percent	Fourth Choice Percent	Fifth Choice Percent
All black	20	7	24	32	16
10 black—4 white	23	58	13	6	1
7 black—7 white	50	22	26	1	< 1
2 black—12 white	5	12	34	49	1
All white	2	2	3	12	81
Total	100	100	100	100	100
Sample size	2001	1995	1989	1977	1975

class. Our dummy variables represent respondents' educational attainment and family income and distinguish homeowners from renters ("tenure").

Control Variables

In the MCSUI surveys, every effort was made to match the race of the interviewer and respondents, but matching was not always successful. The proportion of African Americans not interviewed by another African American was 6% in Atlanta, 10% in Detroit, 18% in Los Angeles, and 46% in Boston. Racial mismatching was particularly likely to occur among those living in integrated neighborhoods. The fact that there is considerable evidence that responses to racial attitude questions are influenced by the race of the interviewer (e.g., Anderson, Silver & Abramson 1988; Davis 1997; Schaeffer 1980; Schuman & Converse 1971) combined with the fact that racial mismatching occurred differentially in the four metropolises poses problems, particularly when drawing cross-city comparisons. The analyses, therefore, control for race of interviewer and the percentage of blacks in respondent's neighborhoods.

Results and Discussion

AFRICAN AMERICANS' NEIGHBORHOOD PREFERENCES

Most summaries of blacks' residential preferences are derived from asking them to rank-order five neighborhoods from most to least attractive. This approach allows the choices of African Americans in the MCSUI study to be easily summarized: given their options, 50% of blacks selected as the most attractive the evenly balanced one, with 7 black and 7 white families. The next most popular were the 10 black/

TABLE 2: Reasons Blacks Find a Neighborhood Most Attractive, by Racial Composition of the Neighborhood

Reason (high to low priority)	Neighborhood Selected As Top Choice				
	7 Black, 7 White Families	10 Black, 4 White Families	14 Black, 0 White Families	2 Black, 12 White Families	0 Black, 14 White Families
	Percent	Percent	Percent	Percent	Percent
White hostility	4	4	15	2	2
Positive effects of integration	22	15	0	10	9
Cultural similarities	0	1	7	0	0
Better neighborhood characteristics	7	6	6	30	50
What used to/always been	1	1	10	2	0
Like/prefer living with blacks; feel more comfortable; own kind	1	4	40	0	0
Because more whites than blacks/not all black	1	2	0	18	5
Because more blacks than whites	1	17	1	1	0
Because it is mixed	56	42	0	19	7
Because it is black	0	0	10	0	0
Other (not coded above)	7	8	12	18	27
Total	100	100	100	100	100
Sample size	998	452	400	100	44

Note: These are coded responses to the open-ended question “Why do you find this neighborhood most attractive?” See Appendix A for details. The major theme in each response was coded.

4 white and the all-black area. Both of these were chosen by just over one African American in five. Very few wished to pioneer in an all-white neighborhood. Table 1 shows how the five neighborhoods were ranked.

Which neighborhood was chosen *second* among those who selected the 50–50 neighborhood as most attractive? The answer is clear: 79% went on to select as their second choice a neighborhood with a higher density of blacks — the 10 black/4 white neighborhood (this breakdown is not shown in Table 1). The third choice was a split. Of the 809 African Americans who said their first choice was a 50–50 area and their second the 10 black/4 white neighborhood, 37% went on to the next higher density of blacks — the all-black area. The other 62% went for a lower density of blacks and selected the 2 black, 12 white neighborhood as their third choice. These results show a desire for integration coupled with an aversion to pioneering, since the least preferred neighborhood was the all-white one. Eight of ten African Americans put it at the very bottom of their rank order and only 2% said it was most attractive.

Patterson (1997), Thernstrom and Thernstrom (1997), and Clark (1999) focused on findings like this to argue that blacks' residential preferences maintain neighborhood segregation. They stopped with these findings and therefore left unanswered questions about the nuances of black preferences and, what is more important, the reasons underlying them. To fill this gap, we first turn to a direct question in which MCSUI respondents were asked to explain, in their own words, why they found a particular neighborhood to be most attractive.

HOW DO AFRICAN AMERICANS EXPLAIN THEIR TOP-CHOICE NEIGHBORHOOD?

Table 2 summarizes the themes mentioned by blacks when asked to explain their top choices. We begin with those who selected the 7-7 or 10-4 neighborhood as their first choice. Most preferred these neighborhoods simply because they were racially mixed: 56% of those selecting the 7-7 and 42% of those picking the 10-4 neighborhood said something on the order of

"Blend of black and white people."

"Because it is truly integrated."

"I prefer a mixed neighborhood. Isn't that all we've been fighting for?
To be able to mix and mingle freely."⁵

While respondents giving this "mixed" reason were vague about why these integrated neighborhoods appeal to them, others are more explicit:⁶ 22% of those selecting the 7-7 neighborhood and 15% of those favoring the 10-4 neighborhood were interested in improving race relations through living with whites on their block.

"Because I want my kids to experience both cultures because the world is mixed and we must learn to live together."

"It's a pretty even number of both races. I would feel more comfortable with it. [Tell me why.] I could have a relationship with both races and better the communications between both races."

"Because it's equal, it's half and half. [What is it about this that makes it better?] Blacks and whites will have a chance to live next to each other, get to know each other and like each other and find out each aren't so bad."

These two themes — the "mixed" and the "positive effects of integration" — together account for the majority of explanations for why these two neighborhoods are considered most attractive, though the 10 black/4 white neighborhood was distinctive in that those who made this their top choice also considered the relative

proportion to be an important feature. These respondents expressed interest in integration but preferred that the numerical balance be tipped in favor of blacks:

"Because it looks like a good area. It has black and white and it's mixed and there's not too many whites."

"Because it is half and half, but with more blacks."

"It's a nice mix, lots of blacks and a couple of whites thrown in for good measure."

What about those who prefer to live in all-black neighborhoods? What evidence is there for the Feagin and Sikes (1994) hypotheses that such preferences are driven by racial pride, concerns about white hostility, or a desire to invest in black institutions? Our open-ended data suggest answers to these questions: 40% of those whose top choice was the all-black area stated a preference to live around black people or otherwise reported they would feel more comfortable living in such a neighborhood. For example:

"It's my own kind."

"I just personally prefer to live with black people."

"Because when I open my windows I want to see some color. I'm happiest around my people. I like my people. I feel more like a person in my own neighborhood."

Responses such as these can mean either of two things. On the one hand, people may be expressing their attraction to a neighborhood with "their own kind" because of feelings of affinity and cultural closeness, an interpretation consistent with Clark's hypothesis. Such responses might also reflect a desire to avoid ostracism and hostility in a white neighborhood. It is difficult to discern the difference, but when interviewers probed and when respondents gave more complete answers, there was evidence for both sentiments. Seven percent of those who preferred a segregated black area gave a "cultural similarity" explanation:

"My neighbors would share similar interests and cultural backgrounds."

"Because it is an all-black neighborhood. [What do you mean?] I would be in an area where the commonality of ethnicity would be more comforting."

On the other hand, twice as many — 15% — mentioned a desire to avoid whites because of the hostility they would feel:

"It is an all-black neighborhood. I wouldn't have to worry about my neighbors not wanting me there."

"Can understand blacks better and lived in black neighborhoods all my life. If I lived in a white neighborhood, they would be watching me."

In sum, while a sizable proportion expressed concern about harassment and discrimination, the typical response identifies a general preference for or liking of all-black neighborhoods. However, this pattern does not provide strong support for the assertions that residential segregation is due to African Americans' "neutrally ethnocentric" preferences: only one black in five selected the all-black area as his or her top choice, and among these few, only about one-half gave reasons that have any connection to a "neutral ethnocentrism" interpretation.

Only two of the five cards showed neighborhoods in which blacks would be in the numerical minority — the one in which the African American respondent would be the pioneer and the other in which the black newcomer would join two other African American families. Only 2 and 5% of blacks, respectively, selected these neighborhoods as the most attractive place to live. When this small group explained why they found majority white areas attractive, they did not emphasize any intrinsic merit to living among whites. Rather, better services and lower crime rates were the attraction:

"Some whites would stimulate better public services. Majority white neighborhoods receive better services."

"Stores stock better quality of goods where whites live."

"Because their neighborhood is just better than ours. [Why?] The lawns and the property is kept up better. It's quieter. You don't hear helicopters and sirens all the time."

"Because the crime rate would be lower and it would be a better neighborhood for my family."

Results in Table 2 provide some clues about the motivations underlying black residential preferences. Few respondents reported racial pride as the reason for their choices — even among those who selected the all-black area. In addition, respondents choosing the two most popular neighborhoods explained that they are interested in integration with whites. A sizable minority explicitly stated that their wish for integration was driven by a desire to improve race relations. All-black neighborhoods were seen as most attractive by one in five African Americans and their motivation appears to be in part a function of avoiding the hostility and discomfort of living in white neighborhoods, and only to a small degree for reasons of racial pride and ethnocentrism.

A QUANTITATIVE ASSESSMENT OF WHY AFRICAN AMERICANS FIND NEIGHBORHOODS ATTRACTIVE

We now turn to a quantitative examination of the factors that influence the racial composition of African American's top-choice neighborhood. We are interested in whether the quantitative analyses reveal more support than was evident in the open-

TABLE 3: Multinomial Logit Regression (Log Odds) of the Top Choice Neighborhood of African Americans

	Sample Size	Prefers All-Black to 50–50	Prefers 10–4 to 50–50	Prefers Majority- White to 50–50
Demographic, social, and economic characteristics of respondents				
City				
Detroit (base)	706	1.00	1.00	1.00
Atlanta	709	2.61***	1.18	.85
Boston	234	1.41	.90	1.28
Los Angeles	352	1.84**	1.22	1.49
Sex				
Male (base)	677	1.00	1.00	1.00
Female	1323	.82	1.00	1.08
Age				
18–24 (base)	146	1.00	1.00	1.00
25–34	483	.80	.62	1.00
35–44	513	1.21	1.10	.77
45–54	302	.97	.89	1.42
55–64	213	1.08	.66	.78
65–92	327	.97	1.09	1.45
Education				
No degree (base)	511	1.00	1.00	1.00
High school	998	.53***	.62**	.83
Some college	237	.54**	.63*	.57
BA/BS	185	.51*	.76	.76
Advanced degree	57	.47	.55	.81
Income				
< \$10,000 (base)	504	1.00	1.00	1.00
\$10,000–19,999	386	.99	1.01	1.03
\$20,000–34,999	381	.51**	1.09	.95
\$35,000–49,999	181	.60	1.07	.83
\$50,000 or more	192	.63	.97	.89
Did not report income	357	.90	.77	.93
Tenure				
Not owner (base)	1258	1.00	1.00	1.00
Owner	740	.60***	.77	1.02
Perceptions of own fate tied to fate of race				
Own fate tied to racial groups?				
Not at all (base)	428	1.00	1.00	1.00
Not much	135	.78	.93	.67
Some	690	.88	.75	.51**
A lot	719	1.01	.82	.68

TABLE 3: Multinomial Logit Regression (Log Odds) of the Top Choice Neighborhood of African Americans (Continued)

	Sample Size	Prefers All-Black to 50–50	Prefers 10–4 to 50–50	Prefers Majority-White to 50–50
Perceptions of institutionlized discrimination				
Discrimination in the job market				
None/only a little (base)	125	1.00	1.00	1.00
Some	577	.73	.56*	.33**
A lot	1267	.77	.60*	.47*
Real estate industry discriminates				
Almost never/rarely (base)	309	1.00	1.00	1.00
Sometimes	1029	1.09	.99	.95
Very often	617	.95	.80	1.29
Banks discriminate				
Almost never/rarely (base)	247	1.00	1.00	1.00
Sometimes	812	1.22	1.09	.98
Very often	894	1.31	1.27	1.05
Perceptions of interpersonal discrimination				
Individual whites won't rent/sell				
Almost never/rarely (base)	191	1.00	1.00	1.00
Sometimes	965	.69	1.30	.94
Very often	799	1.04	2.00**	1.03
Whites more difficult to get along with than blacks				
Whites easier (base)	389	1.00	1.00	1.00
No difference	680	1.71**	1.05	1.15
Blacks easier than whites	864	2.26***	1.04	.72
Control variables				
Percentage of blacks in tract/block group	79	1.52	.83	.93
Race of interviewer				
Black interviewer (base)	1718	1.00	1.00	1.00
No black interviewer	283	.56*	.58*	1.23
Pseudo R ² (Cox and Snell)	.131			

(N = 1993)

* p < .05 ** p < .01 *** p < .001

ended responses for the hypothesis that blacks who feel racial solidarity with other blacks prefer neighborhoods with higher densities of African Americans or whether concerns about racial hostility will emerge as important in the quantitative analysis, as they did in the open-ended responses. Finally, we are interested in whether demographic factors explain variation in residential preferences for blacks, as they do for whites.

This analysis parallels the open-ended analysis by examining predictors underlying the top-choice neighborhoods. We use multinomial logistic regression and compare respondents whose top choice was the 50–50 neighborhood to the other three options: the all-black neighborhood; the majority-black (but not all-black) neighborhood; and the majority-white neighborhood. The bivariate statistics for the key predictor variables are shown in Appendix C, but since these variables have competing and offsetting effects on neighborhood preferences, we do not examine the bivariate results in detail.

Columns 2 through 4 in Table 3 show the log odds of a respondent preferring either the all-black, majority-black (10–4), or majority-white neighborhood to the 50–50 neighborhood. Odds greater than 1 indicate that respondents in those categories are more likely to prefer one of the other neighborhoods to the 50–50 one; odds less than 1 indicate that respondents in that group are less likely to prefer the other neighborhoods to the 50–50 area. Because the independent variables are a series of dichotomous variables, the effects must be understood as comparisons to the omitted (or baseline) group (which are indicated with a log-odds of 1.00 on Table 3).

We begin with the group who preferred the all-black neighborhood to the 50–50 neighborhood (column 2). Both site and socioeconomic status are significant predictors: African Americans in Atlanta and Los Angeles were significantly more likely to select an all-black over a 50–50 neighborhood than the residents of Detroit and Boston were. There is an important effect of social class as well: all three indicators (education, income, and tenure) show that respondents with higher income, those with more education, and those who are homeowners are *less* likely than their counterparts to prefer an all-black neighborhood to a 50–50 one.⁷ This contradicts Feagin and Sikes's "overload" hypothesis, since these findings reveal that middle-class blacks are *less* interested in living in all-black neighborhoods.

Of the social psychological predictors, one might anticipate that group solidarity will distinguish between those who reject the 50–50 neighborhood in favor of the all-black area. The results, however, do not support this hypothesis. Indeed, though not statistically significant, the effect is in the opposite direction: Respondents who felt their fates were not much or only somewhat affected by what happens to the race as a whole were slightly *less* likely to prefer the all-black to the 50–50 neighborhood than those who say they are not at all affected by what happens to their race. As with the open-ended data, the quantitative analysis shows little evidence that preferring all-black neighborhoods is based on racial solidarity.

A clear distinguishing feature of those who prefer the all-black to the 50–50 neighborhood was the respondent's assessment of whites as easy or difficult to get along with: Respondents who believed there was either no difference, or that blacks were easier to get along with than whites, were about 1.75 to 2.25 times as likely to prefer an all-black to a 50–50 neighborhood as their counterparts who rated whites as easier to get along with than blacks. Looking at this in the reverse, the small proportion of blacks who viewed *whites* as easier to get along with than *blacks* (20% of the overall sample) were significantly *less* likely to prefer an all-black neighborhood to a 50–50 area. The significant effect of the “get along” variable is consistent with the open-ended data showing that African Americans who selected the all-black neighborhood often explained their choice in terms of being “more comfortable” in an all-black neighborhood.

What types of people pick the 10–4 neighborhood over the 50–50 community? While the open-ended analysis showed few differences between the reasons given for picking the 7–7 and 10–4 neighborhood, the quantitative analysis in Table 3, column 3, provides more information. Education plays a role in reducing the proportion of African Americans in a respondent's top choice: Those with more education were *less* likely to pick the 10–4 than the 7–7 neighborhood. That is, increases in educational attainment were associated with preferring the 50–50 neighborhood. However, tenure and income, which distinguished between those preferring an all-black to a 50–50 neighborhood, do not show significant effects.

Perceiving one's fate as connected to the race's also had no statistically significant effect on choosing the 10–4 over the evenly mixed neighborhood. Most of the measures of institutional discrimination did not show an effect either. The one that did is in a puzzling direction: African Americans who see the job market as having high levels of discrimination are *less* likely to pick the more heavily black neighborhood than those who see little job discrimination. More easily interpretable is the effect of perceiving discrimination by white homeowners. Those who think blacks miss out very often on good housing because white homeowners discriminate were twice as likely to prefer the neighborhood where the numerical balance is tipped in favor of African Americans. This distinction was not apparent in the open-ended analyses, where white hostility was mentioned by just 4% of the respondents selecting the 50–50 or 10–4 neighborhood as their most preferred. This finding, in conjunction with the effects of the “get along” variable in column 2, suggests that perceptions of white hostility take two forms: perceptions of whites as easy or difficult to get along with as against perceptions of whites as potential discriminators in real-estate transactions. The former distinguishes between those who find all-black neighborhoods more attractive than 50–50 neighborhoods; the latter identifies those who prefer to live in an integrated community with a majority (but not exclusively) black population.

The final comparison is between those few respondents who preferred one of the two majority white neighborhoods (2–12, 0–14) over the 50–50 one (column 4).

None of the demographic or social class predictors is significant. While social class indicators identify those blacks who reject an all-black neighborhood in favor of a 50–50 community, they do not distinguish between those who prefer majority-white to 50–50 areas.

Only two social psychological factors — group identity and perceptions of discrimination in the job market — are statistically significant. First, racial group solidarity *reduces* the likelihood that an African American respondent will find most attractive a neighborhood with almost all white neighbors. Put another way, those blacks who do not feel a connection to their race are most likely to prefer a majority white over a 50–50 neighborhood. Considering the results of the racial solidarity variable for all three categories of the dependent variable (columns 2 through 4), contrary to expectations, it appears that although racial solidarity results in a rejection of majority-white neighborhoods, it does not shape the distinction between those selecting the evenly mixed, majority, and exclusively African American neighborhoods. If anything, given the direction of the effects, racial solidarity results in preferences for an evenly mixed community. This is consistent with the findings of Gurin, Hatchett, and Jackson (1989), who demonstrate that perceptions of a common fate identity by blacks are not exclusionary — such responses are problack but not necessarily antiwhite.

Turning to perceptions of discrimination, the results show that blacks who viewed the job market as discriminatory rejected majority-white neighborhoods as their top choice in favor of 50–50 communities. This last result is consistent with Feagin and Sikes's hypothesis, if we relax the assumption that "white overload" in the workplace leads to a desire for *all-black* neighborhoods; instead, white overload may result in African Americans finding less attractive those neighborhoods where there are just a handful of other blacks.

The measures of interpersonal discrimination do not distinguish between blacks who prefer majority-white to 50–50 neighborhoods. Blacks select their top choice not on the basis of negative feelings toward whites per se but on the basis of perceptions of institutional discrimination and, to a smaller degree, on feelings of a common identity and fate with their race. Taken together with the findings in columns 2 and 3, perceptions of individual whites as discriminators do not push blacks away from majority-white neighborhoods; instead, such perceptions draw African Americans toward all-black, as compared to 50–50, neighborhoods. While perceptions of institutional discrimination in job markets and a sense of common fate identity reduce the likelihood of choosing a majority-white neighborhood, they do not push African Americans from 50–50 neighborhoods to all-black neighborhoods. Instead, what pushes blacks to all-black neighborhoods is a sense of how easy or difficult whites are to get along with.

Finally, none of the indicators included in this analysis tapped the sentiment expressed in the open-ended question by the majority of black respondents who chose one of the majority-white neighborhoods: the sense that "whiter"

neighborhoods had better city services and lower crime rates. This may help explain the dearth of statistically significant predictors in the model shown in column 4, Table 3.

ARE AFRICAN AMERICANS WILLING TO MOVE INTO WHITE NEIGHBORHOODS?

If our analysis of residential preferences examined only assessments of those areas that blacks considered the "most attractive," we would conclude that the prospects for neighborhood integration are bleak. Blacks prefer neighborhoods that are 50–50 or majority black, but we know from research on white preferences that few whites will consider moving to or remaining in such neighborhoods. This investigation of segregation and preferences, however, does not stop here. What are African Americans willing to do if they cannot move into the neighborhoods that are at the top of their preference order? Realistically, African American home seekers have the choice of almost-all-black neighborhoods or neighborhoods with just a few or no black residents, since few neighborhoods are 50–50. Given these constraints, it is important to ask about the willingness of African Americans to enter neighborhoods that are not at the top of their preference list and to consider how open African Americans are to neighborhoods that will result in more integration rather than more segregation.

After giving the neighborhood cards to respondents a second time, they were asked to select those showing neighborhoods they would not move into even if they found an attractive, affordable home there. Turning to these data, we learn more about the choices of blacks: Most African Americans are willing to move anywhere except into segregated neighborhoods. The findings are shown below:

Racial Composition of Neighborhood	Percentage of Blacks Willing to Move In
All-white (14 white homes on card)	35
2 black/12 white	89
7 black/7 white	99
10 black/4 white	99
All-black (14 black homes on card)	78
Total sample size	2,017

The willingness of blacks to move into mixed areas becomes particularly informative when placed in the context of white reluctance to live in neighborhoods of various racial compositions. Whites in the MCSUI study were asked about their willingness to move into mixed neighborhoods using a slightly different array of racial proportions. Unlike the case for African Americans, we found that whites' willingness to move in was strongly influenced by the density of blacks. Almost all whites said they would move into a neighborhood with 13 whites and 1 black resident, but as the density of blacks increased, the willingness of whites to move in declined such that fewer than one white in three was willing to enter a barely-

TABLE 4: Reasons African Americans Would Not Be Willing to Move into an All-White Neighborhood, by Education

Reason (high to low priority)	Total	< 12 years	12 years	> 12 years
	Percent	Percent	Percent	Percent
White hostility	53	60	53	50
Cultural differences	4	2	4	5
Would not be comfortable	15	14	17	13
Want diversity	7	2	6	10
Don't want to be pioneer	16	17	15	17
Other	5	5	6	5
Total	100	100	100	100
n	749	179	242	328

Note: Coded responses to the open-ended question “Why don’t you want to live in an all-white neighborhood?” See Appendix A for additional details. Chi-square test of relationship between education and reasons given: $\chi^2 = 20.49$; 10 df; $p = .025$.

majority-black neighborhood (Farley et al. 1993; Farley, Fielding & Krysan 1997; Farley et al. 1994). Information about the willingness of whites to move in is shown below:

Racial Composition of Neighborhood	Percentage of Whites Willing to Move In
All-white (14 white homes on card)	96
1 black/13 white	89
3 black/11 white	73
5 black/ 9 white	47
8 black/ 6 white	31
Total sample size	1,951

There is no mistaking the pattern. Blacks are much more willing to live with white neighbors than whites are willing to live with African Americans. And African Americans, in great numbers, are willing to live in a neighborhood where they are one of a handful of black residents.

WHY ARE AFRICAN AMERICANS UNWILLING TO MOVE INTO AN ALL-WHITE NEIGHBORHOOD?

While blacks are open to moving into a wide range of neighborhoods, the areas that are least popular are segregated ones — especially the all-white neighborhood. This reluctance is pertinent to policy given current patterns of segregation and the prevalence of all-white or virtually all-white neighborhoods. Are blacks unwilling

to move into all-white neighborhoods because of a desire for racial solidarity, for fear of racial hostility, or for other reasons? Are the reasons for *unwillingness* different from the forces that determine their *top choices*?

To investigate, we carried out qualitative and quantitative analyses, beginning with an examination of the reasons blacks gave to an open-ended question about why they were unwilling to move into exclusively white areas. This analysis is limited to Atlanta, Boston, and Los Angeles because Detroit respondents were not asked the follow-up question.

Respondents who are unwilling to live in an all-white area because of a desire to live in a neighborhood with those who share a black identity and culture (the theme labeled “cultural differences”) come closest to the racial solidarity or neutral ethnocentrism concept proposed by Clark and others. Several examples illustrate this response:

“Won’t have a black experience. Won’t be able to have black neighbors to relate to.”

“Because I would not want to lose my heritage.”

“I don’t know. . . . Maybe because I wouldn’t want my kids raised around all white kids because they might grow up confused. I’ve seen it happen on the talk shows. They start talking like the white kids. Then again I don’t want my daughter thinking white boyfriends are okay.”

Column 1 of Table 4 reports the distribution of responses to the question asking African Americans why they are unwilling to move into all-white neighborhoods and shows that only 4% of blacks would avoid all-white neighborhoods for the cultural differences reasons. Instead, the majority — 53% — expressed concerns about white hostility such as being ignored, harassed, discriminated against, and having crosses burned on their lawns or damage done to their property.

“Because it’s too many whites. They’ll burn you out or kill you.”

“Discrimination by the whites. I really believe that. It wouldn’t be no secret. They wouldn’t include me in the block club, wouldn’t let their kids play with my kids. I’d hear a lot of racial slurs like Nigger.”

“I believe it would be prejudiced and I don’t want to wake up with crosses burning on my lawn.”

“They would not welcome me. I would feel discriminated against — I would be a black dot in the midst of white cream.”

“Because it wouldn’t be fair. [What do you mean?] I’d be the only black in there, and if something should happen, they would point to me.”

“Because you either get treated as a token or you get ignored or there’s this superficial niceness that is annoying. More often than not one of these three things happen.”

In a milder version of the same sentiment, another 15% of blacks who would not move into an attractive, affordable home in an all-white neighborhood said they would be uncomfortable, without any specific mention of the hostile things whites might do.

"I would feel out of place."

"Not my race — I would get very lonely in an all-white neighborhood."

"Would feel funny being around all white folks."

"We'd be a spectacle"

Feagin and Sikes (1994) contend that since middle-class blacks often spend their work lives in majority-white settings, they want to avoid white areas because of the additional hostility they expect from their neighbors. Results in Table 4 (columns 2 through 4) show partial support for this hypothesis: The modal response across all three educational levels is the white hostility theme. However, there is no evidence that those with higher levels of education (the middle class) are more likely to give this type of explanation. In fact, if anything, they are less likely than their less well educated counterparts to point to racial hostility when explaining their avoidance of all-white neighborhoods. Nevertheless, Table 4 makes it clear that fear of white hostility is a major factor in blacks' unwillingness to consider an all-white neighborhood.

As an aside, African Americans with a college degree were five times as likely as those with less than a high school education to express a preference for diversity as their reason for avoiding an all-white area. Highly educated blacks gave reasons such as the following:⁸

"Because I want myself and kids to maintain some balance."

"Just too restrictive, not integrated."

"That would be my last choice. When I lived in Vegas, I lived in a white neighborhood. I just rather have a mixed neighborhood. I like to have a lot of different flowers in a garden."

WHY ARE AFRICAN AMERICANS UNWILLING TO MOVE INTO AN ALL-BLACK NEIGHBORHOOD?

One black respondent in five was unwilling to move into an attractive, affordable home located in an all-black neighborhood. We already have some insights into why African Americans *prefer* a majority-black neighborhood over a 50–50 split — but what explains the unwillingness of African Americans who say they would not move into an all-black neighborhood? Table 5 presents their reasons. Most

TABLE 5: Reasons African Americans Would Not Be Willing to Move into an All-Black Neighborhood, by Education

Reason (high to low priority)	Total	< 12 years	12 years	> 12 years
	Percent	Percent	Percent	Percent
Perceptions of neighborhood	37	44	40	31
Perceptions of people	13	19	21	5
Value diversity	11	4	10	15
Mixture—generic	23	11	17	33
Other	16	22	13	16
Total	100	100	100	100
n	268	54	96	118

Note: Coded responses to the open-ended question “Why don’t you want to live in an all-black neighborhood?” For further details, see Appendix A. Chi-square test of relationship between education and reasons given: $\chi^2 = 30.2$; 8 df; $p = .000$.

frequently mentioned was a negative perception about black neighborhoods or black people in general. Combining these two categories yields 50% of those refusing to enter an all-black area identifying negative characteristics they associate with their own race or black areas.⁹

- “They can’t seem to get along. [What do you mean?] Can’t stand to see the next person get up in the world. [How do you mean?] Financially. Too destructive — they don’t know how to take care of things. [What things?] Property.”
- “Because I want to move into a mixed neighborhood. [Why?] They play their music too loud, the kids bounce the balls on your lawn. I know you might find the same thing in a white neighborhood but I have never heard the music so loud.”
- “Because I live in a black neighborhood now and the crime rate is very high, poor police services and no shopping.”
- “Because too much violence, too much drugs, too much police harassment, too many helicopters and sirens, too many robberies, burglaries. You name it, we got it.”

This result, very narrowly, supports Harris’s (2001) assertion that African Americans are averse to black neighbors because they are uninterested in the negative characteristics of neighborhoods they associate with high densities of African Americans (what he calls a “racial proxy” hypothesis). To be sure, these open-ended responses highlight the existence of this sentiment among a small minority of African Americans. Placed in the context of our fuller results, however, we diverge sharply from Harris. First, Harris starts from the premise that large proportions of African Americans are averse to living with other African Americans.

This is not correct. In our study, only 20% of African Americans are unwilling to live in an all-black neighborhood and most wanted substantial numbers of other blacks in their neighborhood. This is no evidence whatsoever of widespread aversion among African Americans to living with other blacks. Second, aversion to black neighbors, according to Harris, centers on concerns about neighborhood quality. In our study, just one-half of the 20% of African Americans who were unwilling to move to an all-black neighborhood pointed to such concerns as crime, neighborhood upkeep, and noise. In other words, only 10% of African Americans in the MCSUI sample fall into the category of people characterized by Harris's hypothesis. To draw inferences based on this narrow group misrepresents the role of race in current housing markets.

In addition to concerns about the neighbors and neighborhoods, the remaining explanations for an unwillingness to live in an all-black neighborhood center on a preference for diversity. Black respondents either articulated a generic desire to live in a mixed community (23%) or mentioned a specific benefit they associated with a mixed-race neighborhood (11%):

"I never grew up in an all-black neighborhood. When you're bringing up children they need to get along with everyone, with all nationalities. [Anything else?] That's the main reason why."

"I would feel stifled. [How do you mean?] Like I wasn't getting any growth — closed minded, shallow."

The Thernstroms (1997) drew on anecdotal evidence to argue that middle-class blacks — like whites — are averse to all-black areas because of negative perceptions of such neighborhoods. Classifying respondents by education does not support this hypothesis. Table 5 (columns 2 through 4) reports the relationship with education and reveals that increases in attainment were matched by *decreases* in the view that black neighborhoods were unattractive places. It was the least educated blacks who were unwilling to live in all-black neighborhoods who also saw the most troubles with black neighbors and in black neighborhoods. Indeed, highly educated blacks explained their unwillingness to live in all-black neighborhoods in terms of valuing the principle of integration and a preference for racial mixing. "Mixture" and "value diversity," when combined, constituted nearly one-half of the reasons provided by blacks with more than a high school degree when they explained their opposition to segregated black areas.

A QUANTITATIVE ANALYSIS OF BLACKS' UNWILLINGNESS TO ENTER ALL-WHITE OR ALL-BLACK NEIGHBORHOODS

As in our analysis of top-choice neighborhoods, we examined how demographic, socioeconomic, and social psychological factors influenced the willingness of blacks to enter either the all-white or the all-black neighborhoods. Table 6 (Column 2)

shows the bivariate relationship between each of the independent variables and willingness to move into the all-white neighborhood. The bivariate results for willingness to move into an all-black area are presented in Column 4 of Table 6.

Logistic regression models assessing the net effects of these variables on the willingness of blacks to move into all-white areas are shown in Column 3 of Table 6. These coefficients are relative odds ratios with the baseline category for each variable the omitted category, indicated with an odds ratio of 1.00. Values greater than 1 indicate a greater willingness to move into segregated neighborhoods. In this multivariate analysis, blacks in Atlanta, Boston, and Los Angeles were all significantly *more willing* to move into all-white neighborhoods than were African Americans in Detroit. This is an interesting contrast to the top-choice analysis. While only Atlanta blacks stood out in their *preference* to live in neighborhoods with high densities of African Americans, Boston and Los Angeles blacks join Atlantans in being significantly *more willing* than those in Detroit to move into an all-white neighborhood. Put another way, Detroit blacks are unusual among African Americans in the four cities in their unwillingness to pioneer an all-white neighborhood. Among the remaining demographic and social characteristics, only one shows a statistically significant relationship: Homeowners are significantly more likely than renters to be willing to move into an all-white neighborhood.

Among the social psychological variables, African Americans who believed their own fate was linked to that of their race were somewhat *less* willing to pioneer than those who saw no such link between their fate and that of their race, but the difference does not reach statistical significance. The perception that there is a lot of discrimination against African Americans in the job market and by real-estate brokers did not influence blacks' willingness to pioneer, but those who thought that white property owners discriminate against blacks were — reasonably enough — significantly less willing to enter all-white neighborhoods than were those who saw little or no discrimination. It is interesting that only the perception that individual whites discriminated against blacks influenced black's willingness to pioneer. While perceptions of whites as easy or difficult to get along with influenced a respondent's top-choice neighborhood, it did not influence their willingness to move into an all-white neighborhood.

In sum, both the qualitative and quantitative assessments of unwillingness to move into an all-white neighborhood point to the important role of African Americans' perceptions of whites' hostility and discrimination: African Americans who thought whites to be discriminatory were less willing to pioneer and when directly asked why they would not move into such a neighborhood, the majority gave reasons associated with hostility and discrimination. Among the social and demographic characteristics, there are few consistent signs that the black middle class hold different patterns of preferences, or reasons behind them, than lower- and working-class African Americans. Finally, local racial histories and relations shape the attitudes of African Americans toward living with whites: Detroit

TABLE 6: Bivariate and Logistic Regression Analyses of Willingness to Move into All-White or All-Black Neighborhood (African American Respondents)

	Sample Size	Pct. Willing to Move to All-White Nbhd.	Odds Ratio of Willingness to Move to All-White Nbhd.	Pct. Willing to Move to All-Black Nbhd.	Odds Ratio of Willingness to Move to All-Black Nbhd.
Demographic, social, and economic characteristics of respondents					
City					
Detroit (base)	721	27%	1.00	75%	1.00
Atlanta	709	44***	2.53***	85***	1.84***
Boston	234	34	1.46*	65	.85
Los Angeles	353	37	1.86***	78	1.23
Sex					
Male (base)	685	38	1.00	78	1.00
Female	1331	35	.86	78	.97
Age					
18–24 (base)	146	35**	1.00	74	1.00
25–34	488	33	.82	75	1.09
35–44	515	32	.87	80	1.53
45–54	304	36	.99	78	1.22
55–64	215	39	1.06	79	1.17
65–92	331	44	1.34	79	1.15
Education					
No degree (base)	515	36	1.00	81	1.00
High school	1008	35	1.17	76	.70*
Some college	241	36	1.15	80	.83
BA/BS	183	37	1.08	77	.69
Advanced degree	57	32	.82	81	.89
Income					
< \$10,000 (base)	506	34	1.00	79	1.00
\$10,000–19,999	387	35	.93	82	1.39
\$20,000–34,999	384	35	.89	74	.77
\$35,000–49,999	181	34	.83	76	.91
\$50,000 or more	193	31	.68	76	.91
Did not report income	366	42	1.28	78	.92
Tenure					
Not owner (base)	1296	34	1.00	78	1.00
Owner	748	39*	1.36*	78	1.00
Perceptions of own fate tied to fate of race					
Own fate tied to racial groups?					
Not at all (base)	433	41*	1.00	75**	1.00
Not much	134	40	1.05	74	.80
Some	699	34	.81	76	.97
A lot	724	34	.84	82	1.37

TABLE 6: Bivariate and Logistic Regression Analyses of Willingness to Move into All-White or All-Black Neighborhood (African American Respondents) (Continued)

	Sample Size	Pct. Willing to Move to All-White Nbhd.	Odds Ratio of Willingness to Move to All-White Nbhd.	Pct. Willing to Move to All-Black Nbhd.	Odds Ratio of Willingness to Move to All-Black Nbhd.
Perceptions of institutionalized discrimination					
Discrimination in the job market					
None/only a little (base)	125	39**	1.00	77	1.00
Some	581	40	1.13	78	1.13
A lot	1279	33	.90	78	.92
Real estate industry discriminates					
Almost never/rarely (base)	313	41**	1.00	74	1.00
Sometimes	1035	37	.88	79	1.18
Very often	618	30	.87	78	.95
Banks discriminate					
Almost never/rarely (base)	250	34**	1.00	73	1.00
Sometimes	816	40	1.43*	78	1.23
Very often	897	32	1.31	79	1.24
Perceptions of interpersonal discrimination					
Individual whites won't rent/sell					
Almost never/rarely (base)	194	48***	1.00	79	1.00
Sometimes	970	39	.63**	77	.70
Very often	803	28	.40***	79	.78
Whites more difficult to get along with than blacks					
Whites easier than blacks	392	38*	1.00	68***	1.00
No difference	683	39	1.02	76	1.55**
Blacks easier than whites	866	32	.81	83	2.12***
Control variables					
Percentage of blacks in tract/block group	2010		.89		1.03
Percent blacks among willing		77%*		80%	
Percent blacks among not willing		80%		77%	
Race of interviewer					
Black interviewer(base)	1731	35	1.00	80***	1.00
No black interviewer	286	40	1.33	64	.58**
Total	2017	36%	2018	78%	2017
Pseudo R ² (Cox and Snell)			.073		.059

*p < .05 **p < .01 ***p < .001

consistently stood out as the site in which African Americans were least comfortable with all-white neighborhoods. However, few city differences emerged when the focus of the analysis is the top-choice neighborhood.

Other than the all-white area, the only other neighborhood large proportions of African Americans were unwilling to enter was the exclusively black one. The bivariate analyses are shown in column 4 of Table 6, and the fifth column of coefficients assesses the net impact of these variables upon the willingness of African Americans to move into all-black neighborhoods using a logistic regression model and reporting net relative odds-ratios. In the multivariate context, only three variables were significant. First, Atlanta blacks were unusually willing to move into all-black areas. Second, the effects of socioeconomic and demographic variables were small and inconsistent, although respondents with just a high school education were significantly less willing to move into exclusively black neighborhoods than were those with no high school diploma.

Recall that the dependent variable here is the willingness to move into an all-black neighborhood. Thus, it is little surprise that perceptions of discrimination — either institutionalized discrimination or discrimination by individual whites — had no significant impact. It is interesting that neither did common fate identity significantly influence the willingness of African Americans to move into all-black neighborhoods. Here, again, is evidence that “racial solidarity” is not a straightforward concept that dominates blacks’ perspectives on neighborhood racial composition. The only social psychological variable of significance was whether blacks perceived whites as comparatively difficult to get along with. Again, those who thought that blacks were easier to get along with than whites were significantly more willing to move into exclusively African American areas.

As was the case for the analysis of the preference for a majority-white neighborhood over a 50–50 neighborhood, none of the indicators in our quantitative models directly taps the reasons given by the majority of African Americans who indicated an unwillingness to live in an all-black neighborhood: negative perceptions of African Americans as a group, and of neighborhoods in which African Americans live. In a sense, however, we can treat the “get along” variable as an indirect measure of the perceptions of African Americans as a group. This is, indeed, one of the important variables predicting attitudes toward moving into an all-black neighborhood. At the same time, it is important to note that only about 20% of the African American respondents reported that they felt that whites were easier to get along with than blacks.

Conclusion

Taken as a whole, we conclude that preferences are important. But we take issue with the interpretations offered about the importance of preferences without any understanding of their causes. African American preferences are inextricably

linked to discrimination and white hostility. From this we conclude that the role of preferences in the future of integration is based not on free and open choices derived from neutral ethnocentrism, nor even expectations about neighborhood quality, but they are instead based upon past and present patterns of discrimination and hostility. While we cannot in this study provide an assessment of the competing contributions of preferences as against institutional discrimination, our findings — because they demonstrate the close connection between concerns about and experiences with racial discrimination and African Americans' preferences — contrast sharply with Harris's (2001) recent conclusion that race and preferences play a negligible role in perpetuating residential segregation.

African American racial residential preferences are complex. From a methodological standpoint, our use of multiple methods (open- and closed-ended analyses) and multiple measures of residential preferences highlight that complexity. The comparisons between the open- and closed-ended results and the attractiveness versus willingness measures reveal that the different lenses through which we viewed this social phenomenon augment and complement each other. Thus, our multimethod efforts paid off in a more nuanced understanding of the forces driving the racial residential preferences of African Americans. At the same time, we acknowledge that our quantitative models remind us that there is much we still do not understand. This is particularly true when compared to models of white racial attitudes, where birth cohort and educational attainment do much to explain variation in attitudes. In our models for African American preferences, we found that such factors do little, but that perceptions of institutional and interpersonal discrimination were important. This is a start, but the relatively low proportion of variance explained in these models illustrate its incompleteness. This highlights an important general challenge in understanding racial attitudes: Historically, our conceptual models tend to be developed with whites in mind; but this analysis shows that it is inappropriate to simply apply the same conceptual model to African Americans.

We draw four substantive conclusions: *First*, the residential preferences of African Americans play a role in maintaining neighborhood segregation. MCSUI data are consistent with those from studies spanning five decades: The preferred neighborhood for the typical black is one that is about 50–50. Most American neighborhoods are overwhelmingly white, and so they are not considered attractive to many blacks.

Second, although Patterson (1997) and the Thernstroms (1996) are right about the importance of black preferences for residential segregation, they are wrong about the reasons for these preferences and about their implications. The nation's long history of racial antagonism and conflict helps keep blacks and whites apart. African Americans are highly reluctant to buy or rent in largely white neighborhoods neither because they feel a strong allegiance to black communities nor because they wish their children to attend schools in a black environment. Rather, they want to live

with other African Americans because they fear that if they are one among many whites, whites will be hostile, blame them for any troubles that arise, and treat them as unwelcome intruders. The policy implications of this finding are evident. While it is important to root out continuing discrimination in the housing market, speeding integration is also contingent on whites' reassuring blacks that they are welcome in all residential areas, that their children are welcome in all schools, and that they will be treated with respect, not suspicion.

Third, at first glance it appears that our data suggest that any reduction in segregation is unlikely. They are consistent with the actual trends of the 1990s. Blacks wish to reside in 50–50 neighborhoods, but that is far too high a density of African Americans for all but a handful of whites. Few blacks have the option to buy a home in a 50–50 place. Nevertheless, our data report a great willingness of African Americans to move into attractive, affordable homes in neighborhoods with a much lower density of blacks, as long as at least a few African American families reside in the neighborhood. Blacks are certainly not averse to living with whites as long as they can be sure they will not be treated with hostility.

Three decades ago Schelling (1971, 1972) modeled a discouraging pattern of racial change in older central cities. A few blacks would enter a formerly white neighborhood. This would trigger an exodus of the least tolerant whites who would soon be replaced by African Americans seeking better homes. This rise in the density of blacks would provoke the slightly more tolerant whites to move to the white suburban ring, but black newcomers would replace them. As Alderman Francis X. Lawler observed in Chicago, integration was that span between the entry of the first black and the departure of the last white.

Early data from the census of 2000 suggest only small declines in black–white segregation (Logan 2001). Many census tracts, however, especially those in the suburbs that had few or no black residents in 1990, now are home to some African Americans. In 1990, 27% of metropolitan census tracts were 1 to 5% black in their composition; by 2000, it was 32% (Glaeser & Vigdor 2001: Table 2). Suburbs with no black residents were common in the Midwest and Northeast in 1980 but difficult to find in 2000. If the small number of African Americans who are now pioneering find that whites are tolerant, quite likely that favorable information will spread among African Americans and there will be a larger flow of blacks to such neighborhoods. This migration did not greatly lessen segregation in the 1990s but may do so in this decade.

Finally, our findings emphasize the crucial role that white preferences continue to play in maintaining segregation. Whites' willingness to enter neighborhoods is strongly linked to the density of blacks there. As the suburbanization of African Americans continues, it is inevitable that some, perhaps many, neighborhoods will be written off by white home seekers as "too black." Because of increasingly tolerant racial attitudes, whites will likely move away from these integrating areas less rapidly than their parents left the central city neighborhoods that Schelling modeled. But,

as Saltman (1990) described it, integration is a "Fragile Movement." Three decades after Congress enacted the Open Housing Law, we can point to only a few stably integrated communities — Shaker Heights, Ohio; Starrett City; and Oak Park, Illinois — each of them something of a special case.

Notes

1. This article cannot distinguish the relative importance of all factors. Rather, we provide empirical evidence germane to the question of whether, as has been argued recently, black preferences can be viewed as the driving force behind residential segregation.
2. In Atlanta, a series of puzzling results led to the discovery that there was a single interviewer whose respondents displayed a highly unusual pattern of responses across many items — including two of our key dependent variables and several of the independent variables used in this analysis. Through communication with the survey organization responsible for collecting these data, we learned that this interviewer had conducted a large number of refusal conversions and the interviews often occurred under difficult conditions. Despite the fact that these apparently reluctant respondents are an important (and often missed) population, our careful examination of the response patterns raised serious concerns about the quality of the data obtained from these respondents. Given our concerns about reliability and validity of data from these 96 cases, we exclude them from all analyses.
3. Three different coders were used for the three different questions, and the strategies were somewhat different for each. First, for the question about why the neighborhood was considered most attractive, one coder coded the responses for all four cities, after achieving an acceptable agreement rate with an independent coder. For this question, the agreement rates were as follows: Atlanta 84%, Boston 81%, Detroit 92%, and Los Angeles 91%. A different coder coded the responses of those who were unwilling to live in an all-black neighborhood, and independent check-coding yielded overall agreement rates of 95% in Atlanta, 71% in Boston, and 77% in Los Angeles. The Detroit survey did not include this item. Finally, responses about unwillingness to live in an all-white neighborhood were coded by two independent coders. Because agreement rates between the two coders were lower (77% in Atlanta, 67% in Boston, and 68% in Los Angeles), all responses were coded separately by two coders, and disagreements were reconciled. The agreement rates should be treated as conservative estimates, because they were calculated from the original (nonhierarchical) coding scheme (available from Krysan) and required that the two coders agree entirely about how each part of a respondent's answer was coded. Because any respondent could be coded under an unlimited number of themes, the two coders could agree, for example, that the cultural similarities theme was present in a response but disagree about whether a response also included a discrimination theme. Agreement rates based on whether the two coders agreed that a particular respondent mentioned a particular theme are consistently higher than the overall agreement rates and generally exceed 90%.
4. Because social psychological measures are ordinal, dummy variables were constructed. The four perceptions-of-discrimination items (discrimination in the job market, in real

estate, in banking, and by individual white owners) were collapsed so that the “none/almost never” and “a little/rarely” were combined because few African Americans gave the responses of “none” or “almost never.” The scores for the ratings of blacks and whites as “difficult” or “easy” to get along with were divided into three categories: (1) those who rated whites as easier to get along with than blacks, (2) those who saw no difference between whites and blacks, and (3) those who rated whites as more difficult to get along with than blacks. It might be argued that the social psychological indicators are so highly correlated as to caution against their simultaneous inclusion in the models. While the variables are in most cases significantly correlated (ranging from .018 to .493), the correlations are not so high as to make multicollinearity a concern. Perceptions of discrimination in real estate, in banking, and from individual white property owners are the most highly correlated with each other.

5. Here and throughout the article, sample responses are provided to illustrate the themes mentioned by respondents in answering this question. For the incidence of each theme, see the relevant tables. The tables and quotes summarize and illustrate the reasons African Americans give for their preferences. The excerpts are not, therefore, haphazardly selected from interviews; rather, they reflect a systematic analysis of verbatim responses that a scientifically selected sample of respondents gave to three open-ended questions embedded in a standardized survey instrument.

6. The responses coded under the “mixed” (and also the “Because it’s black”) theme are not optimal responses. Interviewers were trained to “probe nondirectively to clarify” unclear responses. For responses like these, additional probing by the interviewer would have been preferable, since we are left uncertain about why a mixed neighborhood is attractive. This insufficient probing is one of the dangers of using qualitative interviewing in large-scale surveys conducted across multiple sites using more than 200 interviewers. On the one hand, this large number of interviewers (and therefore uneven probing) is a shortcoming, since a large number of interviewers will inevitably differ in their skills in survey interviewing. On the other hand, studies involving only one or a small number of interviewers have their own methodological shortcomings, such as concerns about the extent to which a single interviewer, consciously or unconsciously, influenced the respondent through interviewing style, gender, age, or social class. Tradeoffs of this kind are inherent in all methodological decisions. For our purposes, it is interesting that a substantial number of respondents — and their interviewers — considered the answer “mixed” to be a full response to the question asking them why they found a mixed neighborhood to be attractive. Taken at face value, apparently the mixed neighborhoods are deemed attractive simply by virtue of their being mixed. Responses like this may be an implicit affirmation of the benefits of integration.

7. With respect to income, all the categories above \$20,000 show a trend toward less preference for an all-black neighborhood as compared to a 50–50 neighborhood than is shown in the two lowest income categories. Only the \$20,000–\$34,999 category is statistically significantly different from the omitted category, however.

8. Restricting the analysis to those interviewed by African American interviewers reduces the education effect. The proportion of African Americans mentioning the positive effects of diversity grows from 2 to 9% (across the three levels of education) among those interviewed by an African American. The overall relationship between education and reasons remains of borderline statistical significance (Likelihood $\chi^2 = 16.5$; 10 df; $p = .086$).

9. There is a subtle difference between these two themes. In the case of perceptions of people, respondents negatively characterize blacks as a group. Perceptions of neighborhoods, by contrast, refers to neighborhoods that are predominantly African American. Thus, the latter is not a direct criticism of blacks; rather, it is a criticism of the places they live.

APPENDIX A: Coding Details for Open-ended Responses

A. DETAILED DESCRIPTION OF CODING SCHEME FOR "WHY DO YOU FIND THIS NEIGHBORHOOD MOST ATTRACTIVE?" (HIERARCHICAL CODING SCHEME, HIGH TO LOW PRIORITY)

1. *White hostility.* Living with whites would result in discrimination, hostility, and feelings of being unaccepted and unwanted.
 2. *Positive effects of integration.* A racially or ethnically mixed neighborhood is good or beneficial, generally from the standpoint of teaching children to get along with other races, or in general learning about other races in order to improve interracial relations. The theme also captures responses that promote a multicultural living environment such as "we have to learn to get along."
 3. *Cultural similarities.* The selected neighborhood is seen as better because the respondent would share interests, cultural backgrounds, and similar experiences with their neighbors.
 4. *Better neighborhood characteristics.* The selected neighborhood is believed to have better public services and amenities and lower crime rates.
 5. *What used to/always been.* The neighborhood was chosen because the respondent is familiar with it or has always lived in such a neighborhood.
 6. *Prefer living with blacks/own kind.* The neighborhood was chosen because the respondent indicated a greater comfort with his or her "own kind," the respondent "prefers" his or her own kind, or the respondent likes black people. No mention is made of wanting to avoid whites or being drawn to black neighborhoods because of cultural similarities (these are both coded in other themes). Neither does this theme include mentions of feeling accepted in an all-black neighborhood, since these often imply that in a white neighborhood blacks would feel unwelcome. Consequently, such reasons are coded under the "white hostility" theme (see below).
 7. *More whites than blacks/not all black.* A desire not to live in a neighborhood that is exclusively black, or in which blacks outnumber whites.
 8. *More blacks than whites.* A desire to live in a neighborhood where there are not too many whites — or where there are some whites, but where there are still more blacks than whites.
 9. *It is mixed.* A desire to live in a racially or ethnically mixed neighborhood, but without an explicit mention that racial/ethnic mix has specific positive benefits.
 10. *Because it is black.* The respondent gives as the reason the simple assertion that the neighborhood is black (hence, this response is only used among those who picked the all-black neighborhood as their top choice). The respondent did not elaborate on why a black neighborhood is desirable; she or he simply gave as the explanation the reason "it's black." This differs from category #6 in that a respondent coded under #10 does not give any kind of evaluative statement (such as "I like African American neighborhoods" or "I feel more comfortable among blacks.")
 11. *Other.* All other responses not elsewhere classified. Lowest priority.
-

APPENDIX A: Coding Details for Open-ended Responses (Continued)

B. DETAILED DESCRIPTION OF CODING SCHEME FOR "WHY DON'T YOU WANT TO LIVE IN AN ALL-WHITE NEIGHBORHOOD?" (HIERARCHICAL CODING SCHEME, HIGH TO LOW PRIORITY)

1. *White hostility.* In an all-white neighborhood, the respondent perceives discrimination, hostility, prejudice, feelings of not being welcomed, and the sense that whites do not like blacks. Essentially, any mention that blacks want to avoid living with whites because they feel they would be hassled or harmed by them are included in this category.
2. *Culture.* Concerns that the respondent or respondent's children would lose their cultural heritage or would have little in common, culturally, with their neighbors. This also includes the perception that the respondent would have no one to relate to and no friends in such a neighborhood.
3. *Comfort.* Any reference to negative feelings that a respondent associates with a neighborhood that is all white. This can include feelings of discomfort, isolation, and loneliness. This does not include mentions that a respondent feels that whites specifically would be unwelcoming or unaccepting. Such responses are coded under "white hostility."
4. *Want diversity.* A preference to live in a mixed neighborhood.
5. *Don't want to be a pioneer.* Respondent prefers not to be in an all-white neighborhood, citing a preference not to be the only member of their race in a neighborhood. This also includes mentions of wanting to be around others of their own race.
6. *Other.* All responses not elsewhere classified.

C. DETAILED DESCRIPTION OF CODING SCHEME FOR "WHY DON'T YOU WANT TO LIVE IN AN ALL-BLACK NEIGHBORHOOD?" (HIGH TO LOW PRIORITY)

1. *Perceptions of the neighborhood.* Negative perceptions of the characteristics of all-black neighborhoods.
 2. *Negative perceptions of blacks.* Negative perceptions of the characteristics of black people.
 3. *Value diversity.* Mentions of specific positive benefits associated with a mixed neighborhood, as well as a general desire to provide children with a mixed environment.
 4. *Mixture – generic.* Generic responses that the neighborhood lacks variety and that a mixture is desirable. This does not include mentions of specific reasons for valuing diversity. Such responses are coded under "value diversity."
 5. *Other.* Responses not elsewhere classified.
-

APPENDIX B: Question Wording for Social Psychological Predictors of Preferences

BELIEVE OWN FATE CONNECTED TO RACE'S

"Do you think what happens generally to black people in this country will have something to do with what happens in your life? [If yes:] Will it affect you a lot, some, or not very much?"

DISCRIMINATION IN THE JOB MARKET

"Now I am going to ask you some questions on a different topic. We are interested in whatever thoughts and opinions you have. There are no right or wrong answers. The first topic is discrimination. In general, how much discrimination is there that hurts the chances of blacks to get good paying jobs? Do you think there is a lot, some, only a little, or none at all?"

REAL-ESTATE INDUSTRY DISCRIMINATES

(Same introduction and response options as "Individual Whites Won't Rent/Sell," see below)

"What about real estate agents will not show, sell, or rent to blacks?"

BANKS DISCRIMINATE

(Same introduction and response options as "Individual Whites Won't Rent/Sell," see below)

"What about banks and lenders will not loan money to blacks to purchase a home?"

INDIVIDUAL WHITES WON'T RENT/SELL

"I'm going to mention several reasons why black people may miss out on good housing in [THIS METROPOLITAN AREA]. I'd like you to tell me how often you think black people miss out on good housing for each of the following reasons I mention. What about whites will not rent or sell?" (Almost never, rarely, sometimes, very often)

WHITES MORE DIFFICULT TO GET ALONG WITH

"Next, for each group I want to know if you think they tend to be easy to get along with or tend to be hard to get along with. Where would you rate (blacks/whites) on this scale, where 1 means tends to be easy to get along with and 7 means tends to be hard to get along with? A score of 4 means you think that the group is not toward one end or the other and, of course, you may choose any number in between that comes closest to where you think people in the group stand."

What about whites? What about blacks? (All respondents ranked both races. A difference score was used with high values indicating that a black respondent thought whites were much more difficult to get along with than blacks.)

APPENDIX C: Bivariate Analysis of the Most Attractive Neighborhood by Various Independent Variables

		Top Choice of Neighborhood			
	Sample Size	50–50	All Black	10–4	Majority White
City					
Detroit	706	55%	15%	23%	7%
Atlanta	709	46***	27	22	5
Boston	234	55	14	20	11
Los Angeles	352	46	20	25	9
Sex					
Female	1323	50	20	23	7
Male	677	50	21	22	7
Age					
18–24	146	47**	22	25	6
25–34	483	56	18	18	8
35–44	513	49	21	26	5
45–54	302	50	19	22	10
55–64	213	53	23	18	6
65–92	327	44	20	26	10
Education					
No high school diploma	511	39***	27	26	8
High school	998	53	18	21	7
Some college	237	55	18	22	5
BA/BS	185	55	15	24	6
Advanced degree	57	60	14	19	7
Income					
Less than \$10,000	504	43***	26	24	7
\$10,000–19,999	386	47	23	22	8
\$20,000–34,999	381	55	13	25	7
\$35,000–49,999	181	56	14	24	6
\$50,000 or more	192	59	13	21	7
Did not report income	357	51	23	19	7
Tenure					
Not owner	1258	47***	23	23	7
Owner	740	56	15	22	7
Own fate tied to racial groups?					
Not at all	428	45*	20	24	11
Not much	135	50	19	25	7
Some	690	54	19	21	5
A lot	719	49	21	23	7

APPENDIX C: Bivariate Analysis of the Most Attractive Neighborhood by
Various Independent Variables (Continued)

	Sample Size	Top Choice of Neighborhood			Majority White
		50–50	All Black	10–4	
Discrimination in the job market					
None/only a little	125	38**	19	28	14
Some	577	55	18	21	6
A lot	1267	50	21	23	7
Real estate industry discriminates					
Almost never/rarely	309	54	17	21	8
Sometimes	1029	51	19	24	6
Very often	617	47	22	23	8
Banks discriminate					
Almost never/rarely	247	54	17	21	9
Sometimes	812	52	19	23	7
Very often	894	48	22	24	7
Individual whites won't rent/sell					
Almost never/rarely	191	55***	21	16	8
Sometimes	965	54	17	22	7
Very often	799	44	23	26	7
Whites more difficult to get along with than blacks					
Whites easier	389	55***	13	24	8
No difference	680	51	18	23	9
Blacks easier than whites	864	49	24	22	5
Race of interviewer					
Black interviewer	1718	49***	22	23	7
No black interviewer	283	60	11	18	11
Percentage of black in tract/block group	1994	78	81	79	76

Note: Significance levels were derived from a chi-square test of the independence of rows and columns.

* $p < .05$ ** $p < .01$ *** $p < .001$

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The Culture of Mexican Migration: A Theoretical and Empirical Analysis*

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Abstract

Many field investigators have observed the evolution of a “culture of migration” in certain Mexican communities characterized by a high rate of out-migration to the U.S. Within such communities, international migration becomes so deeply rooted that the prospect of transnational movement becomes normative: young people “expect” to live and work in the U.S. at some point in their lives. Males, especially, come to see migration as a normal part of the life course, representing a marker of the transition to manhood, in addition to being a widely accepted vehicle for economic mobility. International migration is cultural in the sense that the aspiration to migrate is transmitted across generations and between people through social networks. In this article, we develop a formal theory of the culture of migration and test it using a special data set collected by the first author as well as data from the Mexican Migration Project. We show that children from families involved in U.S. migration are more likely to aspire to live and work in the U.S. and that these aspirations, in turn, influence their behavior, lowering the odds that they will continue in school, and raising the odds of their eventual out-migration to the U.S.

Field investigators working in a variety of settings have described the emergence of a “culture of migration” in Mexican communities characterized by long-standing and high rates of international migration. Within such communities, people come

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to valorize foreign wage labor positively, along with the behaviors, attitudes, and lifestyles associated with it. Foreign remittances enable poor households to self-insure against risks to their economic well-being and to elevate material standards of consumption. At the same time, foreign savings provide a source of investment capital that can raise household productivity as well as income. Given a greater ability to purchase both consumer and capital goods, migrants come to evince a widely admired lifestyle that others seek to emulate, and international migration comes to be seen as a tractable and accessible strategy of upward social mobility.

As migratory behavior extends throughout a community, it increasingly enters the calculus of conscious choice and eventually becomes normative. Young people who grow up and come of age increasingly expect to migrate internationally in the course of their lives. For young men, especially, migration becomes a rite of passage, and those who do not attempt it are seen as lazy, unenterprising, and undesirable as potential mates. In communities where international labor becomes fully integrated into the local culture, young men seeking to become adults literally do not consider other options: they assume they will migrate in preparation for marriage and that they will go abroad frequently in the course of their lives as family needs and personal circumstances change.

The culture of migration has figured prominently in field studies of Mexican migration to the U.S. Wiest (1973) speaks of migration as creating a "culture of dependency" and Reichert (1979, 1981) describes the emergence of a "migrant syndrome." Mines (1981) elaborates the development of a "community tradition of migration" and Massey et al. (1987) speak of the "social process of international migration." Goldring (1992) and Rouse (1992) and others describe the "transnationalization of social space" in migrant communities, and Alarcón (1992) refers to the "northernization" of sending towns. According to Smith (1998, 1999), migrant-sending communities are "transnational localities" where absent migrants are "always present" in local social life, politics, and culture. Drawing on these and other case studies, Massey and associates (1998) identify the culture of migration as a key link in the broader social process known as the "cumulative causation" of migration.

Studies of Mexican popular culture have documented the degree to which U.S. migration has become integrated into a variety of Mexican art forms. Durand and Massey (1995) present examples of migratory themes in *retablo* paintings, which are votive works left as offerings to religious icons throughout Mexico. Fernández (1983) and López (1995) document the treatment of migratory themes in *corridos*, popular folk ballads avidly followed by Mexico's lower classes. Espinosa (1999) shows how Catholic religious life has been adapted to the reality of mass migration, with regular religious processions organized in honor of *los ausentes*, special masses dedicated to the migrant parishioners, the adoption of new patron saints to achieve village celebrations more in tune with the rhythms of seasonal migration, and special ministries, undertaken by village priests, to the migrant diaspora.

Although many facets of the culture of Mexican migration have been described qualitatively, no study has yet documented the existence of this culture or its effects *quantitatively*, using representative survey data. We thus have no model of the specific *mechanisms* by which migratory attitudes spread through cultural channels to affect behavior. In this article, we outline a theory stating how migrant-supporting values are spread between people and across generations in Mexico, and how they subsequently influence individual behavior to perpetuate out-migration to the U.S. We then draw on a unique source of survey data to document the existence of a culture of migration and confirm its connection to migratory behavior.

The Cultural Transmission of Migration

The essence of the culture-of-migration argument is that nonmigrants observe migrants to whom they are socially connected and seek to emulate their migratory behavior. Seeing friends, relatives, and neighbors dramatically improve their socioeconomic circumstances through U.S. labor, and hearing returned migrants selectively relay stories of thrilling adventures and cosmopolitan experiences north of the border, young Mexicans acquire aspirations that lead them psychologically to invest less in Mexico and more in the prospect of life and work north of the border, thus increasing the odds that they actually do leave school to enter the transnational migrant workforce. The greater the involvement of a young person's family in U.S. migration, and the greater the prevalence of migratory behavior in the broader community, the greater should be the likelihood that a young person aspires to work and/or live in the U.S., as captured in the following equation:

$$U.S. \text{ asp} = f(+involve, +prevalence, controls), \quad (1)$$

where *U.S. aspirations* indicates an aspiration to live or work in the U.S., *involve* indicates the degree of family involvement in international migration, *prevalence* is the prevalence of migratory behavior in the community, and *controls* refers to a set of personal, family, and community characteristics that are held constant in estimating the effect of the former variables. The associated signs indicate the direction of the expected effects.

If the existence and transmission of such values lead to the cumulative causation of migration over time, then we expect people who aspire to migrate internationally should make fewer investments for success in Mexico. Since education historically has brought high returns for occupational attainment and income within Mexico, but little marginal benefit to undocumented migrants working in the U.S. (see Taylor 1987), we expect young people holding aspirations to live and/or work in the U.S., those from families more involved in international migration, and those from communities where U.S. migration is more prevalent

to display a significantly lower likelihood of aspiring to continue schooling in Mexico:

$$educ\ asp = f(-U.S.\ asp, -involve, -prevalence, controls) \quad (2)$$

where *educ asp* indicates an aspiration to get an additional year of education, the other variables are defined as before, and the signs once again indicate the direction of the expected effects.

Finally, we expect that those who aspire to migrate the U.S., and who do not aspire to additional schooling in Mexico, should display a higher likelihood of leaving for the U.S.:

$$Pr(migration) = f(-educ\ asp, +U.S.\ asp, +involve, +prevalence, controls) \quad (3)$$

where *Pr(migration)* refers to the probability of out-migration to the U.S., *mig* is a dichotomous variable that equals 1 if the respondent migrates within some reference period and 0 otherwise, and the other variables are defined as before. Together these constitute a structural equations model describing how cultural values supportive of international migration are transmitted interpersonally and intergenerationally, the effect of those transmitted values on educational aspirations in Mexico, and the effect of these values on the ultimate likelihood of out-migration to the U.S.

Recent work by Hondagneu-Sotelo (1994), Hagan (1994) and Espinosa (1998) suggests, however, that the cultural dynamics of international migration may be substantially different for males and females. Whereas *work* in the U.S. is an important rite of passage for young men, offering them freedom, opportunities for economic autonomy, and the lure of unknown adventures, U.S. labor does not carry the same allure for young women. Indeed, the departure of husbands and brothers puts additional burdens, psychological and material, on wives and daughters left behind. Whereas work in the U.S. strongly appeals to men, women are much more ambivalent. They appreciate the potential material benefits, but dislike the short-term increase in work and responsibility, worry about the elevated risks of abandonment that are inevitably associated with male migration, and resent the loneliness they are expected to endure. As a result, labor migration tends to be initiated by men working through male-dominated social networks, not by women (Cerrutti & Massey 2001).

As men become more involved in international migration, however, women apply increasing pressure to join their husbands on trips north of the border. Once in the U.S., women encounter new opportunities for employment and autonomy, and new avenues of mobility for themselves and especially their daughters (Hondagneu-Sotelo 1994). For women, the United States offers a means of overcoming patriarchal restrictions prevalent in Mexican culture and society, of attaining power and autonomy within the family, of reducing the burdens of housework and child rearing, and of achieving a more egalitarian marriage. Hirsh (2000), for example, documents how U.S. migration not only changes intramarital

bargaining power of women but also provides a context for shifting the basis of marital relationships from traditional gendered spheres of mutual respect toward more intimate relations of shared trust. Pessar's (1999) review of migration and gendered relations cites numerous other benefits to women from migration, including control over budgeting and domestic decision making, leverage for shared housework, and access to economic resources outside of the household. Likewise, ethnographic accounts illustrate how gendered perceptions of settlement versus return diverge significantly, particularly on topics related to employment, privacy, and marital relations (Goldring 1996; Grasmuck & Pessar 1991).

We therefore expect U.S. aspirations for women to be manifest more in the desire *to live* than to work in the U.S., in contrast to males, who project their aspirations more in terms of *working* north of the border. Thus, the cultural transmission of migration is likely to be a *gendered* process, requiring us to consider the possibility of significant interactions between gender, aspirations, and behavior.

Data and Methods

Our data come from a student questionnaire that was applied to random samples of school classrooms in Zacatecas, a Mexican state long known for its high rate of out-migration to the U.S. (see Durand, Massey & Charvet 1999). Students were surveyed in the capital city (Zacatecas), a medium-sized town (Jerez), and approximately two dozen smaller agrarian settlements. Population sizes ranged from about 350 to 150,000 inhabitants, and the prevalence of international migration varied from minimal to extensive. We selected agrarian settlements with sufficiently large populations to support at least secondary schools and which were located within easy commuting distance of major cities so that all respondents had roughly equal access to secondary educational facilities.

The survey focused on students in grades 6 through 12, yielding a pool of respondents who were old enough to make up their own minds and sufficiently literate to fill out a survey questionnaire. Our respondents ranged in age from 9 to 23 years and were sampled in numbers equal to their proportions at each grade level within each community. In the cities of Zacatecas and Jerez, we selected five representative neighborhoods and included all the schools mentioned within our survey. We supplemented this sample with a purposive survey of upper-level technical schools and senior high schools located in different neighborhoods of the cities. In agrarian settlements, we only surveyed students from schools that existed within the community itself.

This design yielded a usable sample of 7,061 students representing a hypothetical population of about 230,000 persons, nearly 15% of the state's student population in grades 6–12. Interviewing occurred during the 1995–96 academic year and was carried out by the first author with the assistance of two trained Mexican

fieldworkers. Students were given a twenty-minute introduction to the questionnaire that included assurance that their responses would be confidential. Since the survey contained potentially sensitive questions about parental migration, some of it undoubtedly undocumented, students were instructed not to write their names on the questionnaires. The instruments were self-administered under the supervision of the research team, which monitored classroom conditions, insisted on silence, and briefly reviewed each survey as it was turned in to screen for missing data and obviously incorrect answers. Regular classroom teachers remained throughout the period to ensure cooperation.

The five-page questionnaire began with a one-page grid that asked for basic social and demographic characteristics of each member of the respondent's family (age, education, occupation, job location, marital status, and household membership). The other four pages asked about the student's educational history; the approximate amounts of time he or she spent studying, doing unpaid domestic chores, and engaging in paid labor. The questionnaire also ascertained whether the student's father had been to the U.S. at any time during the prior year, the extent of U.S. migratory experience within the respondent's nuclear and extended families, and the respondent's own educational, occupational, and migratory aspirations.

To ensure that the youngest respondents would be able to understand and answer all the questions, the questionnaire was pretested in one rural and two urban primary schools prior to its full implementation. Questions were substantially revised after each trial. Because surveys contained many questions about behavior in the previous week, they were generally conducted at the beginning of each week to allow for better recall, with Mondays reserved for the youngest primary school students. After the completed questionnaire was turned in, the field team judged whether or not the student had been deliberately evasive or uncooperative. In the end, only 30 questionnaires were discarded, comprising less than 1% of the total sample.

Selection bias in our sample is unavoidable but actually works to our advantage. Since all students, particularly those at higher academic levels, are self-selected for economic resources, academic ability, and interest in schooling, they are *less likely* to be influenced by migration compared to the broader school-aged population. The latter group includes many young people who left school precisely to migrate to the U.S., and who, if included in the sample, would show greater susceptibility to the influence of U.S. migration within their families and communities.

Aspirations to Migrate

In the course of completing the questionnaire, students answered two questions about aspirations with respect to the U.S.: "Would you like to go to the United States some day to work?" and "Would you like to go to the United States some day to live?" Table 1 presents the percentages of respondents answering "yes" to these

TABLE 1: Aspirations to Work and Live in the United States by Migratory Experience in One's Nuclear and Extended Families — Students in Grades 6–12 within Selected Schools in the State of Zacatecas

Gender and Aspiration	Family Involvement in U.S. Migration				
	None Percentage	Extended Percentage	Nuclear Percentage	Father 1–2 Percentage	Father 3+ Percentage
All students					
Want to work in U.S. some day	37.2	45.9	51.2	60.3	61.9
Want to live in U.S. some day	33.8	36.2	35.3	46.0	48.6
Ever been to the U.S.	8.3	11.4	14.5	24.4	27.0
Number of cases	724	2,173	1,454	1,540	1,170
Males					
Want to work in U.S. some day	51.2	53.8	58.5	68.7	71.1
Want to live in U.S. some day	42.2	40.7	38.6	47.0	50.6
Ever been to the U.S.	6.9	11.9	15.0	24.2	27.1
Number of cases	303	1,019	726	764	547
Females					
Want to work in U.S. some day	27.1	38.9	44.0	51.9	53.8
Want to live in U.S. some day	27.8	32.1	32.0	45.1	46.9
Ever been to the U.S.	9.3	11.0	14.0	24.5	27.0
Number of cases	421	1,154	728	776	623

questions, classified by the degree of family involvement in international migration. We also show the percentages of respondents who reported that they themselves had been north of the border.

The degree of family involvement in U.S. migration is coded into five ordinal categories. “None” means that *no* members of the respondent’s family (extended or nuclear) had *ever* been to the U.S. The category “extended” contains respondents who reported that members of their extended, but not nuclear, family had ever been to the U.S. The “nuclear” category means that someone in the respondent’s nuclear family had been to the U.S., but that the father had not migrated since the respondent began school. Finally, the last two categories contain respondents from nuclear families where the father was actively engaged in U.S. migration (i.e., he had taken at least one trip since the respondent entered school): “father 1–2” refers to families in which the father had made one or two such trips, and “father 3+” indicates families in which the father had taken three or more trips.

The top panel of the table presents information on all students regardless of gender, and generally reveals patterns consistent with our expectations. The percentage of respondents saying they would like to *work* in the U.S. rises

monotonically across categories of family involvement. Whereas only 37% of respondents in families without migrant experience expressed a desire to work in the U.S., the percentage rises steadily through the extended, nuclear, and father 1-2 categories to reach 62% among those in which the father had made at least three trips north of the border.

Although lower in every category, the desire to *live* in the U.S. is likewise positively associated with greater family involvement in international migration. Whereas the percentage saying they wanted to live in the U.S. was just 34% among those in families lacking any migratory involvement, among respondents with fathers heavily involved in migration the percentage was 49%; and the percentage rises continuously between these two extremes. Aspirations to live and work in the U.S. can in no way be attributed to prior U.S. experience on the part of the respondents. At every level of involvement, the percentage who aspire to live in the U.S. is at least twice the percentage who have been there, and the percentage who desire to work there is three times the share with prior U.S. experience. These discrepancies between aspirations and behavior suggest the tremendous potential for future migration among our respondents.

The next two panels cross-tabulate aspirations separately by gender. As expected, males express a stronger desire than females to work in the U.S., irrespective of the level of family involvement. Among families least involved in migration, 51% of males and 27% of females express a desire to work in the U.S., whereas among those in the most involved families the respective percentages are 71% and 53%. As before, the increase in the desire to work north of the border is monotonic across the intervening categories. In addition, male and female desires seem to proceed upward in roughly parallel fashion as family involvement increases.

In contrast, the desire to *live* in the U.S. rises faster with family involvement among females than among males, consistent with our hypothesis of a gender interaction. Whereas the percentage of females aspiring to live in the U.S. is 14 points below that of males in the lowest involvement category, the difference is only 4 points among those in the highest class. Moreover, the degree to which females aspire to live versus work in the U.S. is quite similar, but among males the aspiration to work is much greater than the aspiration to live north of the border.

In Table 2 we present aspirations by the degree of migratory prevalence in the respondent's *municipio*, which is the smallest unit of local government in Mexico (roughly comparable to a U.S. county). Prevalence was measured using data from a special government survey carried out in Zacatecas that asked a question about recent migrant experience (INEGI 1994). For each *municipio*, we selected persons aged 12 and older and formed the ratio of the number who reported they had been to the U.S. between 1986 and 1990 to the total population times 100. We then divided *municipios* into three categories based on the resulting ratio. A low prevalence of migration was indicated in communities where the ratio was under 3 per hundred residents. A moderate prevalence ranged from 3 to 6 migrants per

TABLE 2: Aspirations to Work and Live in the U.S. by Prevalence of U.S. Migration in the *Municipio* — Students in Grades 6–12 within Selected Schools in the State of Zacatecas

Gender and Aspiration	Prevalence of U.S. Migration in <i>Municipio</i>		
	Low Percentage	Medium Percentage	High Percentage
All students			
Want to work in U.S. someday	48.1	54.8	54.1
Want to live in U.S. someday	40.7	43.3	38.3
Ever been to the U.S.	13.5	5.4	23.6
Number of cases	2,725	1,004	3,332
Males			
Want to work in U.S. someday	57.1	64.5	62.6
Want to live in U.S. someday	46.5	42.9	40.8
Ever been to the U.S.	13.8	6.0	23.8
Number of cases	1,273	501	1,585
Females			
Want to work in U.S. someday	40.3	45.1	46.3
Want to live in U.S. someday	35.7	42.7	36.1
Ever been to the U.S.	13.2	4.8	23.5
Number of cases	1,425	503	1,747

hundred residents, and a high prevalence of migration included *municipios* with migrant prevalence ratios in excess of 6 per 100.

The relationship between migratory prevalence and U.S. aspirations roughly follows our expectations, although the pattern is not as strong or as consistent as that uncovered with respect to family involvement. Among all students, the percentage wanting to work in the U.S. rises from 48% in the low migration prevalence category to 55% in the medium category, but then fails to advance as we move into the high prevalence category, dipping slightly to 54%. The same pattern is observed among males, although as before the overall percentages are higher: the share aspiring to work north of the border rises from 57% among those living in communities with a low prevalence of migration, to 65% in communities characterized by a moderate prevalence of U.S. migration, and then falls back to 63% at high prevalence levels. Although the female increase is monotonic across prevalence categories, it is not very sharp, going from 40% in the lowest category to just 46% in the highest.

The aspiration *to live* in the U.S. is even less clearly related to the prevalence of migration in the community. Among both men and women, the percentage expressing a desire to live north of the border rises from low to medium prevalence

and then falls to very low levels as one moves into the high category. Among all students, for example, the progression is from 41% to 43% to 38%, a shift that is inconsistent with the theory we developed earlier.

Simple cross-tabulations thus indicate that the cultural values in support of migration are transmitted primarily within family and kinship networks rather than more broadly within sending communities. Among school students in the Mexican state of Zacatecas, aspirations to live and work in the U.S. are most closely connected to the degree of family involvement in U.S. migration. Those coming from families that are highly involved in transnational migration are much more likely to express a desire both to live and work in the U.S. than those coming from families with little or no involvement. Although desires to work in the U.S. are positively related to the degree of migratory prevalence in the respondent's community, the relationship is somewhat weak and aspirations to live north of the border are unrelated to the prevalence of migration. Results also suggest possible differences in the transmission of values by gender: males are consistently more likely than females to want to work (as opposed to live) in the U.S., and female aspirations appear to be more sensitive to the degree of family involvement in U.S. migration than those of males.

Determinants of Aspirations

Although the foregoing tabulations are generally consistent with the cultural theory of migration sketched earlier, a more systematic test requires estimating well-controlled equations. We measure U.S. aspirations using two dichotomous variables indicating whether or not the respondent expressed a desire to work in the U.S. someday (yes = 1 and no = 0) and whether he or she someday would like to live in the U.S. (yes = 1 and no = 0). The degree of family involvement in migration is measured using the five-category ordinal classification described above, and accordingly, we use four dummy variables in our models (leaving the fifth category as the reference point).

The number of control variables we are able to consider is constrained by the information solicited on the five-page student questionnaires. We hold constant each respondent's prior migratory experience (1 if ever migrated to the U.S., 0 if not), his or her basic demographic traits (age, sex, and number of nonworking dependents in the household), and place of residence (rural, semi-urban, and urban—with the second category including respondents from the town of Jerez and the third from the city of Zacatecas). We also control for the degree to which respondents are involved in local work by measuring the number of paid hours of labor performed in the prior week, the number of months of paid work done in the prior year, and the number of hours unpaid household labor performed in the prior week. In addition, we include as controls a set of dummy variables indicating mother's education (none, primary only, and secondary or more) as well as

TABLE 3: Logit Regression Predicting the Likelihood of Wanting to Work in the U.S. — Students in Grades 6–12 within Selected Schools in the State of Zacatecas

	Primary Students		Secondary Students		Preparatory Students	
	β	S.E.	β	S.E.	β	S.E.
Family involvement in migration						
No migrants in family	—	—	—	—	—	—
Migrants in extended family	.360	.193	.463*	.134	.248	.127
Migrants in nuclear family	.641*	.213	.660*	.147	.105	.137
Father has 1–2 U.S. trips	1.142*	.194	.920*	.156	.569*	.194
Father has 3+ U.S. trips	1.020*	.231	.995*	.153	.742*	.209
Prevalence of U.S. migration						
Percentage 12+ in U.S. 1986–90	.033	.027	-.013	.014	.035	.033
Control variables						
Respondent's U.S. experience						
Has been to U.S.	.262	.181	.062	.101	.159	.120
Urban status						
Rural	—	—	—	—	—	—
Semiurban	-.095	.182	-.230*	.099	-.548*	.177
Urban	.211	.201	-.124	.107	-.123	.177
Demographic background						
Age	.134*	.069	.009	.031	.005	.034
Female	-.658*	.127	-.714*	.075	-.485*	.098
No. of dependents	.076*	.038	-.002	.022	-.023	.028
Work experience						
Hours worked prior week	-.002	.010	.008	.006	.004	.006
Months worked prior year	.027	.030	.052*	.017	.025	.016
Hours housework prior week	.011	.008	.017*	.005	.003	.005
Parental education						
Mother less than primary	—	—	—	—	—	—
Mother primary only	-.201	.167	-.265*	.090	-.038	.116
Mother secondary only	-.204	.179	-.598*	.106	-.332*	.130
Mother's schooling unknown	.139	.199	-.062	.119	-.115	.192
Parental educational aspirations						
Mother wants child to continue	-.452*	.187	-.469*	.098	-.367*	.123
Father wants child to continue	-.362*	.179	-.227*	.095	-.326*	.119
Intercept	-1.385	.915	.366	.476	.328	.650
χ^2	155.208*		412.524*		147.480*	
-2 Log-likelihood	1602.522*		4623.818*		2772.344*	
Number of students	1,312		3,636		2,113	

* $p < .05$

dichotomous variables indicating whether or not the father and the mother wanted the respondent to continue schooling once the current grade level was completed.

Using these variables, we estimated equation 1 separately for students in primary (grade 6), secondary (grades 7-9), and preparatory schools (grade 10) to capture the influence of migration on aspirations at distinct phases of children's education histories. These correspond to rough age intervals of 9-11, 12-14, and 15 and older, respectively, although there may be some overlap owing to grade repetition and discontinuities in attendance. Means and standard deviations are shown for these three groups of students in the Appendix, and the equation estimates are presented in Table 3. These regressions estimate gender as a main effect, leaving interactions for more detailed scrutiny in the following section.

Other things equal, the aspiration to work in the U.S. is significantly and positively related to the degree of family involvement in international migration, although the strength of the relationship moderates as children pass from primary through secondary to preparatory school. Among primary school students, family involvement is the *leading* determinant of aspirations to work in the U.S., with respondents in the top two involvement categories having nearly three times the odds of those in the lowest category to express a desire to work north of the border ($e^{1.020} = 2.77$). Moreover, aspirations for U.S. labor are unrelated either to the prevalence of migration in the community or to the respondent's own U.S. experience. Among the controls we consider, the only factors that matter are those associated with the respondent's demographic characteristics and parental aspirations. The aspiration to work in the U.S. is much lower for females, rises with age, and increases with the number of dependents in the respondent's household; it is also strongly reduced when the father and the mother want the child to continue his or her schooling. Although it is possible that parents of children who lack aspirations to work in the U.S. may decide to encourage education in Mexico (thus reversing the causal arrow), we implicitly assume that parents have an asymmetric influence on their children. Although we cannot directly test this assumption, it seems quite reasonable, especially at younger ages.

Similar patterns are observed among secondary and preparatory students. In both cases, the odds of wanting to work in the U.S. rise steadily with family involvement. Among the former, the odds of wanting to work north of the border is again nearly three times as great among respondents from families displaying the highest migratory involvement as among those in families exhibiting the lowest involvement ($e^{0.995} = 2.70$). Likewise, among preparatory students the odds of aspiring to work in the U.S. are roughly twice as great in the highest as in the lowest category ($e^{0.742} = 2.10$). In both sets of students, moreover, females are significantly less likely than males to express an aspiration for U.S. labor; and, as before, parental aspirations for schooling reduce children's aspirations for work north of the border. The desire for U.S. work is likewise reduced by mother's education.

TABLE 4: Logit Regression Predicting the Likelihood of Wanting to Live in the U.S.: Students in Grades 6–12 within Selected Schools in the State of Zacatecas

	Primary Students		Secondary Students		Preparatory Students	
	β	S.E.	β	S.E.	β	S.E.
Family involvement in migration						
No migrants in family	—	—	—	—	—	—
Migrants in extended family	.389	.189	.213	.133	-.049	.180
Migrants in nuclear family	.277	.207	.374*	.146	-.124	.195
Father has 1–2 U.S. trips	.657*	.203	.855*	.144	.133	.199
Father has 3+ U.S. trips	.784*	.219	.741*	.150	.627*	.221
Prevalence of U.S. migration						
Percentage 12+ in U.S. 1986–90	.023	.024	-.025	.014	-.071*	.035
Control variables						
Respondent's U.S. experience						
Has been to U.S.	.489*	.169	.640*	.098	.439*	.120
Urban status						
Rural	—	—	—	—	—	—
Semiurban	.059	.164	-.290*	.099	-.215	.190
Urban	.277	.190	.150	.105	-.249	.181
Demographic background						
Age	-.023	.063	-.113*	.035	-.095*	.037
Female	-.255*	.119	-.193*	.073	-.352*	.102
No. of dependents	-.059	.036	-.051*	.022	.004	.029
Work experience						
Hours worked prior week	-.006	.008	.006	.006	-.001	.006
Months worked prior year	-.007	.027	-.003	.016	.005	.017
Hours housework prior week	.007	.007	-.006	.004	-.005	.005
Parental education						
Mother less than primary	—	—	—	—	—	—
Mother primary only	.038	.155	.057	.089	-.078	.121
Mother secondary and above	.024	.168	.076	.105	-.195*	.137
Mother's schooling unknown	.091	.184	.074	.118	-.153	.204
Parental educational aspirations						
Mother wants child to continue	.184	.172	-.130	.097	.081	.131
Father wants child to continue	-.105	.166	.041	.094	-.067	.127
Intercept	-.280	.826	1.091*	.469	1.603*	.691
χ^2	50.252*		179.477*		83.608*	
-2 Log-likelihood	1768.457*		4734.675*		2588.879*	
Number of students	1,312		3,636		2,113	

* $p < .05$

Table 4 presents the aspiration to live in the U.S. among students in our sample. The effect of the family involvement in migration is similar to that just described: as involvement rises so do the odds of aspiring to live in the U.S., although once again the strength of the relationship moderates as children age. Whereas *primary school students* coming from families with the greatest migratory involvement have 2.2 times the odds of those in families with the least involvement to express a desire to live in the U.S. ($e^{0.784} = 2.19$), among *secondary school students* those in the highest category have only 1.9 times the odds. As before, the prevalence of U.S. migration in the community is not strongly related to the aspiration to live in the U.S. Although the coefficient attains significance in the equation for preparatory students, the direction of the effect is contrary to theoretical expectations.

Among background characteristics, females are once again less likely to express a desire to live in the U.S., although the effect of gender is much smaller than before. Whereas the gender coefficient in the three work aspirations equations ranged from $-.485$ to $-.714$, in the living aspirations equations it ranged from $-.193$ to $-.352$; and only in the cases of primary and secondary students are the differences statistically significant ($p < .05$). Unlike the aspiration to work, moreover, the desire to live in the U.S. is strongly connected to a respondent's own migratory experience: those who themselves have been north of the border are far more likely to express a desire to live there than those who have never migrated. In contrast, U.S. experience has no effect on aspirations to work abroad, and aspirations for U.S. residence are generally unrelated to parental education or to parental aspirations for schooling.

Table 5 presents estimates for a model that connects respondents' desires to live and work in the U.S. to their aspirations to continue schooling in Mexico. Students were asked if they planned to continue schooling after the current grade level. If there is a culture of migration, we expect that aspirations to migrate to the U.S. will lower the desire to invest in additional schooling within Mexico.

Among primary school students, this hypothesis does not appear to be sustained. Aspirations, family involvement, and a respondent's own migratory experience are not significant in predicting educational aspirations within Mexico. Educational aspirations are negatively influenced, however, by the prevalence of U.S. migration in the community. In communities with relatively large numbers of U.S. migrants, primary students exhibit systematically lower educational aspirations than in those where migrants are scarce. Not surprisingly, the desire to continue schooling among primary students is very strongly related to mother's education and to parental aspirations for additional schooling.

Firmer evidence for the culture of migration comes from equations estimated for secondary and preparatory students. In both cases, the aspiration to work in the U.S. appears to compete with the desire to continue schooling in Mexico, especially among preparatory students. Among them, the odds of aspiring to an additional year of schooling are about half as big among those who aspire to work in the U.S.

TABLE 5: Logit Regression Predicting the Likelihood of Wanting to Continue Schooling after the Current Year — Students in Grades 6–12 within Selected Schools in the State of Zacatecas

	Primary Students		Secondary Students		Preparatory Students	
	β	S.E.	β	S.E.	β	S.E.
U.S. aspirations						
Wants to work in U.S.	.261	.173	-.383*	.086	-.614*	.110
Wants to live in U.S.	-.078	.159	-.056	.085	-.079	.116
Family involvement in migration						
No migrants in family	—	—	—	—	—	—
Migrants in extended family	-.059	.266	.180	.157	-.137	.219
Migrants in nuclear family	-.109	.283	-.247	.167	-.385	.228
Father has 1–2 U.S. trips	-.013	.285	-.066	.169	-.475*	.233
Father has 3+ U.S. trips	-.570	.300	-.161	.174	-.640*	.251
Prevalence of U.S. migration						
Percentage 12+ in U.S. 1986–90	-.080*	.028	-.008	.015	-.078*	.034
Control variables						
Respondent's U.S. experience						
Has been to U.S.	.508	.270	.694*	.123	.439*	.120
Urban status						
Rural	—	—	—	—	—	—
Semiurban	1.561*	.208	.651*	.110	.123	.186
Urban	.685*	.237	.617*	.120	.249	.200
Demographic background						
Age	-.368*	.080	-.124*	.035	-.042	.038
Female	-.313	.165	.042	.086	.103	.113
No. of dependents	-.076	.046	-.049*	.025	-.030	.032
Work experience						
Hours worked prior week	-.001	.011	-.006	.007	.001	.006
Months worked prior year	.033	.036	.017	.018	.035*	.018
Hours housework prior week	.001	.009	.004	.005	.005	.005
Parental education						
Mother less than primary	—	—	—	—	—	—
Mother primary only	.261	.196	.243*	.097	.435*	.127
Mother secondary only	.686*	.240	1.009*	.131	.821*	.151
Mother's schooling unknown	.370	.243	.242	.129	.344	.214
Parental educational aspirations						
Mother wants child to continue	.946*	.209	1.185*	.102	.786*	.130
Father wants child to continue	1.107*	.166	.625*	.101	.993*	.129
Intercept	4.174*	1.052	.937	.535	.699	.741
χ^2	344.580*		843.060*		495.107*	
-2 Log-likelihood	1066.215*		3753.130*		2221.246*	
Number of students	1,312		3,636		2,113	

* $p < .05$

as among those who do not ($e^{-0.614} = 0.54$). Likewise, the odds of aspiring to additional schooling fall steadily as familial involvement and migration prevalence increase. Respondents falling into the highest category of migratory involvement have about half the odds of those in the lowest category to desire another year of schooling ($e^{-0.640} = 0.53$), and each point increase in the prevalence ratio lowers the odds of wanting another year of schooling by around 8% ($e^{-0.078} = 0.92$).

The only migration-related variable to mitigate these negative effects on educational aspirations is the respondent's own experience. Other things equal, students who have actually *been* to the U.S. actually evince a *higher* motivation for additional schooling, possibly reflecting an exposure to education in U.S. schools. As always, children's own aspirations for schooling are strongly related to their parents', but they are not significantly related to gender. At each grade level, males and females display essentially the same aspiration to continue schooling beyond the current year.

In summary, the heavy involvement of Mexican communities and families in international migration contributes to a cultural milieu in which young people invest more faith in foreign wage labor than in Mexican education as a strategy for socioeconomic mobility. The greater the involvement of a student's family in international migration, the more likely he or she is to express a desire to live and work in the U.S. Likewise, the greater the involvement of both communities and families in foreign wage labor, and the more individuals aspire to work in the U.S., the less motivated these individuals are to seek additional schooling in Mexico. In other words, as communities and families shift from low to high involvement in U.S. migration, cultural attitudes increasingly shift to increase the likelihood that future cohorts of young people will seek their fortune abroad rather than at home.

Aspirations and Gender

Despite strong evidence for the emergence of a culture of migration in response to rising migratory involvement among Mexican families and communities, it is still possible that the cultural dynamics operate differently for males and females, as a variety of investigators have argued. Being more closely tied to the family than the wider public, the inculcation of migration-supporting values among young women may be more closely tied to family involvement and less related to community participation than among young men. The emergence of pro-migration values may also follow more directly from the personal migratory experience of females than it does from that of males.

Table 6 examines the hypothesis of such a gender interaction by showing for males and females the estimated effects of family, community, and personal involvement in U.S. migration on respondents' aspirations to live and work in the U.S. Each equation was estimated separately for males and females and the resulting

TABLE 6: Effect of Individual, Family, and Community Involvement on Aspirations to Work and Live in the United States Estimated by Gender — Students within Selected Schools in the State of Zacatecas

	Primary		Secondary		Preparatory	
	Males	Females	Males	Females	Males	Females
Outcome: Wants to work in U.S.						
Family involvement in migration						
Migrants in extended family	-.003	.638*	.194	.752*	.264	.276
Migrants in nuclear family	.386	.858*	.352	.987*	.054	.230
Father has 1–2 U.S. trips	.811*	1.439*	.769*	1.102*	.573*	.654*
Father has 3+ U.S. trips	.715*	1.204*	.766*	1.254*	.858*	.717*
Prevalence of U.S. migration						
Percentage 12+ in U.S. 1986–90	.043	.028	-.023	.003	.056	.015
Respondent's U.S. experience						
Has been to U.S.	.077	.386*	.043	.086	-.032	.321*
Outcome: Wants to live in U.S.						
Family involvement in migration						
Migrants in extended family	.292	.493*	-.068	.479*	.263	-.317
Migrants in nuclear family	.160	.470*	.133	.615*	.089	-.279
Father has 1–2 U.S. trips	.346*	1.054*	.509*	1.203*	.273	.057
Father has 3+ U.S. trips	.643*	.894*	.457*	.994*	.769*	.547*
Prevalence of U.S. migration						
Percentage 12+ in U.S. 1986–90	.069*	-.017	-.033	-.016	-.076	-.075
Respondent's U.S. experience						
Has been to U.S.	.227	.715*	.578*	.705*	.349	.521*
	Primary		Secondary		Preparatory	
	Males	Females	Males	Females	Males	Females
Intercept	-1.4679	-2.4786	.9836	-.9094	.6221	-.5782
χ^2	44.810	91.060	123.374	172.508	64.870	72.168
-2 Log-Likelihood	721.295	859.540	2247.052	2354.955	1253.358	1498.096
Number of students	625	687	1780	1856	954	1159

Note: Significant male–female differences highlighted in bold.

* $p < .05$

coefficients for migration-related variables are presented in the table. In the interests of economy, neither coefficients for the control variables nor the estimates of standard error are shown, but statistically significant coefficients are marked with an asterisk and significant male-female differences are indicated in bold.

Consistent with the observations of field researchers, the processes by which pro-migration values are socially transmitted *do* appear to be gendered. For example, the aspiration to work in the U.S. is more strongly connected to family influence and especially personal experience for females than for males. For young women, the inculcation of aspirations to work in the U.S. is dependent on the degree of migration within their families — more so that it is for their male counterparts. Among primary and secondary students, in particular, the coefficient associated with *each category* of familial involvement is greater for females than males; and six of the eight possible contrasts are statistically significant ($p < .05$). Only among preparatory students do gender differentials moderate to insignificance, but by this time many young men and women have already left the population of active students.

Women are also more responsive than men to prior personal experience in the U.S. Among primary students, for example, having migrated to the U.S. increases the odds of males wanting to work there by only 8% ($e^{0.077} = 1.08$), whereas it raises the odds of females wanting to do so by nearly 50% ($e^{0.386} = 1.47$). Although there are no significant differences between male and female secondary students, at the preparatory level prior U.S. experience raises the female odds of wanting to work in the U.S. by 38% ($e^{0.321} = 1.38$) compared with a small and insignificant *decline* in the odds for males.

Similar patterns are observed when we consider aspirations *to live* in the U.S. Among primary school students, female aspirations are closely connected to family and personal experiences, not to the extent of community involvement, whereas among males the reverse tends to be true. All the female coefficients for family involvement are greater than those of males (although only one of the four pairings attains statistical significance). Likewise, primary school females who have been to the U.S. have twice the odds of those who have not to want to live north of the border ($e^{0.715} = 2.04$), although primary school males are only slightly more likely to aspire to U.S. residence ($e^{0.227} = 1.25$). For young primary school males, however, each percentage point increase in the prevalence of migration increases the odds of wanting to live abroad by around 7% ($e^{0.069} = 1.07$), whereas the degree of a community involvement has no effect on the odds that a young woman would like to live abroad.

The gender differential with respect to family involvement is even greater among secondary school students. Within each category of familial involvement, the effect participation is stronger for females than males, and all the differences are statistically significant. Likewise, personal experience in the U.S. has a stronger effect in promoting the desire of female than of male secondary students to live

north of the border, although the differential does not reach statistical significance. As with aspirations to work in the U.S., the gender differential with respect to aspirations to live abroad appears to moderate at the preparatory level. Thus, gender seems to play its most powerful role in shaping the culture of migration among students in the younger grades, *before* they reach preparatory school.

The Link to Migratory Behavior

The final stage in the cumulative causation of international migration occurs when aspirations to live and work in the U.S. lead to a higher likelihood of out-migration by young people coming of age in communities characterized by a well-established culture of migration. Ideally, we would like to identify boys and girls who express aspirations to live and/or work in the U.S. as children and then follow them through their teenage years and young adulthood to see whether, other things equal, they display a higher probability of leaving for the U.S.

Unfortunately, we do not have access to this kind of longitudinal data. Although our data do include longitudinal event histories for household heads, these are *retrospective* life histories and respondents simply cannot reconstruct with any validity their past psychological states. Recollections of aspirations held at some earlier time are inevitably contaminated by intervening events and behaviors, and respondents consequently are not reliable witnesses to their own earlier mental orientations. The best we can do is link aspirations and behavior in the cross section. If aspirations do condition behavior, then we expect those expressing a desire to work in the U.S. to display a higher likelihood of actually embarking on a trip northward at some point in time.

Although the student questionnaire asked children to report whether they had *ever* been to the U.S., it did not attempt to ascertain the *timing* of specific U.S. trips. For a subset of the school-based sample, however, we can link students to households enumerated by Durand and Massey's (1999) Mexican Migration Project (MMP) in three sample communities: the city of Zacatecas, Jerez, and one of the outlying agrarian settlements. When we attempted to link student records with individual data from the MMP, we were able to make 268 matches, yielding detailed information on the timing as well as the incidence of migration. For these cases, we defined a dichotomous variable that equaled 1 if the child left on a trip to the U.S. in the two years prior to the survey and 0 otherwise. Using a logistic model, we then regressed this outcome on aspirations reported to us on the student survey while controlling for age and gender. Given the limited degrees of freedom, we sought to keep the model simple. The resulting coefficients are shown in Table 7.

The students in this subsample ranged in age from 10 to 18, and not surprisingly the strongest single predictor of the odds of out-migration was age. As children got older, the likelihood of leaving for the U.S. rose sharply. According to our estimates,

the odds increased by roughly 50% with each additional year of age ($e^{0.417} = 1.52$). As one might expect, the coefficient for females was negative, although it was not statistically significant. Holding age and sex constant, however, the likelihood of out-migration to the U.S. was most strongly connected to prior aspirations to work there. Students who reported a desire to work in the U.S. had five times the odds of having left for the U.S. during the reference period ($e^{1.63} = 4.95$), an effect that just misses attaining significance at conventional levels ($p = .07$) owing to the small number of cases. There is no statistical evidence of any link whatsoever between U.S. migration and either the aspiration to continue schooling in Mexico or the desire to live north of the border. It is only the desire *to work* in the U.S. that is directly predictive of migratory behavior.

Obviously a cross-sectional correlation between attitudes and behavior does not prove a causal relationship, although it is consistent with such a relationship. An alternative interpretation is that the act of migration itself promotes aspirations to work north of the border; but the well-controlled model of Table 3, estimated on thousands of cases, has already shown that having been to the U.S. has no bearing on current aspirations to work there. We thus feel confident in arguing that aspirations to work in the U.S. arise from family rather than personal involvement in U.S. migration, and that it is the culturally transmitted aspiration to work abroad that increases the odds of leaving for the U.S. rather than the reverse.

Moreover, we wish to distinguish between aspirations, representing a general and subjective desire, and expectations, which indicate more realistic plans and assessments. We expect that had our survey questions been worded as expectations, our responses would not have changed dramatically, thereby leading to much more significant results. Wording the survey questions as aspirations actually yields more conservative results for our analysis.

The Culture of Migration in Quantitative Perspective

Through a quantitative analysis of survey data gathered from primary, secondary, and preparatory students interviewed in the Mexican state of Zacatecas, we have confirmed the basic propositions of qualitative fieldworkers who have argued for the importance of a culture of migration in promoting international movement between Mexico and the U.S. Simple tabulations prepared for more than 7,000 students indicate that as a family's level of involvement in U.S. migration increases, children are progressively more likely to report an aspiration to live and work north of the border. Multivariate statistical models reveal that this association persists when a variety of personal, parental, and household characteristics are controlled, and that the relationship is strongest among primary school students, less strong among secondary school students, and least strong (but still significant) among preparatory students. Thus children's aspirations vis-à-vis the U.S. appear to be

**TABLE 7: Logit Regression Predicting the Likelihood of Migrating to the U.S.
— Selected Students in Grades 6–12 within Three Communities in
State of Zacatecas**

	Outcome: Migrated 1994–1996		
	β	S.E.	p
Respondent's aspirations			
Wants to continue schooling	.628	.933	.501
Wants to work in U.S.	1.631†	.914	.074
Wants to live in U.S.	-.921	.905	.309
Control variables			
Age	.417*	.140	.003
Female	-.142	.767	.854
Intercept	-10.904*	2.818	.001
χ^2	13.158*		
-2 Log-likelihood	58.785*		
Number of students	268		

† $p < .10$ ** $p < .05$

shaped powerfully by familial involvement in international migration during young childhood.

The aspiration to work in the U.S. is related to other attitudes and behavior in ways predicted by the cultural of migration thesis. Those aspiring to work in the U.S. are less likely to want to continue their education in Mexico, an association that strengthens as one moves from primary to secondary to preparatory levels. Aspirations inculcated early in childhood thus later come to influence aspirations to remain in school. Those who want to work in the U.S. are less likely to invest psychologically in resources (such as schooling) associated with socioeconomic mobility in Mexico and are more likely simply to leave for the U.S., at least in the cross section. Holding age and sex constant, children who aspire to work in the U.S. are five times as likely to migrate as those who do not.

Consistent with the observations of many fieldworkers, moreover, the cultural processes involved in the transmission of migratory behavior appear to be highly gendered. In particular, the inculcation of aspirations to live and work in the U.S. are more strongly connected to family migratory involvement among females than among males; and personal experience in the U.S. appears to be far more important to instilling a desire for U.S. residence among young women than among young men. As Mexican families become more involved in U.S. migration, therefore, girls are more likely than boys to acquire pro-migratory attitudes, and to the extent

that these attitudes subsequently increase the odds of leaving for the U.S., experience north of the border is far more likely to promote aspirations to settle among females than among males.

Thus, our quantitative analyses yield insight into the social mechanisms by which the culture of migration is transmitted within a community. The more a community's families become involved in migration, the higher the likelihood that children will aspire to work in the U.S., which causes them to look northward rather than locally for opportunities and social mobility. As a consequence, they reduce their investment in the acquisition of resources for mobility within Mexico (education), and increase their investment in the prospect of migration, substantially raising the odds that they actually will migrate as they get older and, through their involvement in international migration, ultimately pass pro-migration values on to their own children. These links between family involvement, children's aspirations, and later migratory behavior are especially powerful among young women, particularly when it comes to the decision to settle north of the border. Although more work research is needed, especially on the nature and extent of the empirical link between migratory aspirations and behavior, our analysis provides the first quantitative evidence for the culture-of-migration argument made so well by earlier qualitative fieldworkers.

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APPENDIX: Means and Standard Deviations, by Academic Level

	Primary Students		Secondary Students		Preparatory Students	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dependent variables						
Student wants to work in U.S. someday	.607	.488	.517	.500	.467	.499
Student wants to live in U.S. someday	.495	.500	.407	.491	.327	.469
Student wants to continue schooling	.771	.420	.673	.469	.657	.475
Migration-related variables						
Family involvement in migration						
No migrants in family	.141	.348	.096	.294	.090	.287
Migrants in extended family	.264	.441	.311	.463	.330	.470
Migrants in nuclear family	.195	.396	.194	.395	.234	.423
Father has 1–2 U.S. trips	.230	.421	.218	.413	.211	.408
Father has 3+ U.S. trips	.170	.376	.182	.386	.135	.342
Community-level prevalence of migration						
Percentage in U.S. 1986–90	6.400	3.802	6.024	3.753	5.755	3.490
Control variables						
Respondent's U.S. experience						
Has been to U.S.	.154	.361	.159	.366	.203	.402
Urban status						
Rural	.276	.447	.352	.478	.168	.374
Semi-urban	.403	.491	.339	.473	.402	.490
Urban	.321	.467	.309	.462	.430	.495
Demographic background						
Age	11.588	.943	13.548	1.173	16.731	1.381
Female	.524	.500	.510	.500	.549	.498
Number of dependents	4.012	1.725	4.083	1.649	3.907	1.731
Work experience						
Hours worked prior week	2.062	7.514	2.060	6.718	3.300	9.027
Months worked prior year	.829	2.417	.948	2.505	1.726	3.333
Hours housework prior week	6.768	8.177	7.805	8.327	9.690	10.035
Parental education						
Mother less than primary	.233	.423	.276	.447	.264	.441
Mother primary only	.332	.471	.358	.479	.380	.486
Mother secondary	.264	.441	.232	.422	.284	.451
Mother's schooling unknown	.171	.376	.134	.341	.072	.259
Parental educational aspirations						
Mother wants child to continue	.705	.456	.694	.461	.671	.470
Father wants child to continue	.675	.469	.656	.475	.629	.483
Number of students	1312		3636		2123	

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Evaluating the Role of “Nothing to Lose” Attitudes on Risky Behavior in Adolescence*

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Abstract

This article examines the extent to which adolescents' expectations about their future in terms of health and education affect their risk-taking behavior. With data from the National Longitudinal Study of Adolescent Health, we test the theory that a “nothing to lose” attitude about the future predicts greater involvement in risky behaviors involving early sexual intercourse, selling drugs, and weapon use. We examine the effects of both individual- and school-level conditions. Results provide mixed support for our “nothing to lose” hypothesis. We do find noteworthy school-level effects of “school climate,” including aggregate expectations, mental health, and the prevalence of single-mother families, that influence adolescent risk-taking behavior more than school measures of SES.

Adolescence is typically viewed as a transitional period between childhood and adulthood, a time when young people continue to develop the social and intellectual skills that will prepare them for adult roles and responsibilities. During this period, adolescents reach physical and sexual maturity, develop more sophisticated reasoning ability, and look to their future by developing lifestyle expectations and

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setting educational and occupational goals that will shape their adult careers. These biological, cognitive, and psychosocial changes provide numerous developmental opportunities for adolescents to engage in behaviors that have important implications for health risks and the adoption of healthy lifestyles (Millstein, Petersen & Nightingale 1993).

Adolescence is a period of exploration and discovery. Self-reliance, self-control, and the capacity for independent decision making all increase over the adolescent years (Feldman & Elliott 1990). Adolescence is a time of choices. It involves gaining autonomy, assuming responsibility, and making choices about health, family, career, peers, and schooling (Furstenberg 2000). Choices regarding sexual intercourse or use of substances can have serious implications. However, the ability to comprehend health risks, weigh options, reflect on one's own behavior, and consider the long-term consequences of one's actions also increases during the adolescence (Greene 1986; Keating & Clark 1980; Weithorn & Campbell 1982). A decision process therefore underlies the behavioral choices adolescents make with varying risks to their health and well-being.

Our interest is in risky actions (e.g., carrying or using a weapon) and nonactions (e.g., not using contraception during sexual intercourse) that may have negative consequences (Beyth-Marom & Fischhoff 1997). Although many adults engage in risky behavior, adolescents do so more frequently (Jessor & Jessor 1977). For example, delinquency increases from early to midadolescence and declines sharply by late adolescence (Gans, Blyth & Gaveras 1990). Furthermore, adolescents experience the negative consequences of such behaviors to a disproportionately high degree (Dryfoos 1990).

Some authors suggest that adolescents engage in reckless or problem behavior to demonstrate a mature status or mark the transition to adulthood (Jessor 1987). Others argue that risk behavior is a consequence of heightened egocentrism and sensation seeking during adolescence (Elkind 1985). Many scholars view risk-taking behaviors as predispositions whose expression depends on social and environmental factors such as family, peers, school, community, and cultural belief systems (Arnett 1992; Dornbusch 1989; Dryfoos 1998; Jessor 1987).

Social and environmental factors that define the social contexts of adolescents' lives also impact the aspirations, expectations, and goals that adolescents develop for their futures. Moreover, the opportunities, pressures, and resources adolescents confront on a daily basis are influenced by key social, structural, and economic variables related to ethnicity, minority status, gender, and socioeconomic status (Millstein, Petersen & Nightingale 1993; National Research Council 1993; Ramirez-Valles, Zimmerman & Newcomb 1998), which in turn influence adolescents' expectations for their future lifestyles and careers. This article addresses the role that these expectations and orientations for the future play in adolescents' decisions to engage in risk behavior.

In particular, we examine the extent to which youth expectations for future health and education affect risk-taking behavior in adolescence. We test the theory that a "nothing to lose" attitude or expectation about the future produces greater involvement in risky behavior. Adolescents who have low expectations for their future may feel that they have nothing to lose and engage in more risk behavior than adolescents with high expectations. For instance, teens with expectations of early mortality might be more likely to engage in delinquent or violent behaviors or become sexually active at a young age. We also expect the school context of adolescents' expectations to influence individual behavior such that a "climate" of low future expectations promotes greater involvement in risk behavior by youth in that context than a school climate with high expectations. For example, adolescents who attend a school in which aggregate student expectations for a college education are low might be more likely to engage in illegal behavior regarding drugs or weapons than adolescents in a school with high aggregate educational expectations because the normative school climate would attach less risk to such behavior, with less to lose in terms of future education. We examine these hypotheses using data from the National Longitudinal Study of Adolescent Health, a study of a large nationally representative sample of children in seventh through twelfth grades in 1995.

Background

Rising concern over the status of children in America has generated substantial research and policy interest in adolescent development and in the social contexts in which adolescents learn the social roles and responsibilities they must assume as they make the transition to adulthood (Amato & Booth 1997; Dryfoos 1998; Furstenberg et al. 1999; National Research Council 1993, 1996; U.S. Department of Health and Human Services 1996). Of particular concern is adolescent health and health behavior (Elliott 1993; Elster 1997). Thirty years ago, most adolescent morbidity and mortality was due to natural causes. Today the major sources of adolescent morbidity and mortality can be linked to two general factors: social environments that involve health risks; and preventable, personal behavior involving motor vehicle accidents, homicide, substance abuse, and the consequences of sexual behavior (Gans et al. 1990; Millstein, Petersen & Nighthale 1993).

Adolescents tend to take health for granted. Their energies are directed toward achieving popularity, autonomy from adults, success in school or sports, satisfying romantic and platonic relationships, and confidence in themselves (Crockett & Petersen 1993; Feldman & Elliot 1990; Millstein 1993). In trying to achieve such goals, however, the choices they make can involve health-related behavior. Some degree of behavioral experimentation in adolescence is normal and expected, and the challenge is to distinguish experimental, nonproblematic behavior from

behavior that is destructive (Beyth-Marom & Fischhoff 1997; Crockett & Petersen 1993).

The significance of various types of health risk behavior varies by developmental age (Elliott 1993; Koyle et al. 1989). Having sexual intercourse, although developmentally inappropriate for a 13-year-old, is quite normative for a 19-year-old. In general, when risk-taking behavior occurs early in adolescence, risks of negative consequences are heightened. Adolescents who initiate health-risk behaviors such as sexual intercourse and involvement with drugs at an early age frequently have poorer health later on in life, lower educational attainment, and less economic productivity than their peers (Warren et al. 1997). Early initiation of these behaviors is associated with longer periods of risk taking in later adolescence and early adulthood and also may be a marker for risk taking in adulthood (Dryfoos 1998).

Sexual experience, and particularly the age at first intercourse, represent critical indicators of the risk of pregnancy and sexually transmitted diseases. Youth who begin having sex at younger ages are exposed to these risks over a longer period of time (Wu, Cherlin & Bumpass 1997). Because sexual intercourse during the teen years, especially first intercourse, is often unplanned, it is often unprotected by contraception (Forrest & Singh 1990; Mosher & McNally 1991). In addition, youth who have early sexual experience are more likely at later ages to have more sexual partners and more frequent intercourse (Koyle et al. 1989).

Violence among youth is growing more rapidly than in any other subgroup. Between 1985 and 1994, the number of persons arrested for murder and nonnegligent manslaughter increased by 150% for persons under 18 years of age in comparison to only 11.2% for persons 18 years of age and older (Federal Bureau of Investigation 1995). The homicide rate for 14-17 year olds has risen from 7.0 to 19.1 per 100,000 in just a decade and is attributable to the availability of handguns beginning in 1985 (Fox 1996).

The interrelatedness of risk and problem behavior has been documented in several studies (Dryfoos 1990, 1998; National Research Council 1993). For instance, there is a positive correlation between delinquent behavior, involvement with drugs, and violence (Donovan & Jessor 1985). It is also well established that adolescents involved in delinquency and violence are more likely to be sexually active (Elliott & Morse 1989; Reiss & Roth 1993).

The social environment of adolescents changed rapidly in the 1980s, increasing risk for adolescent health behavior. The huge influx of mothers into the labor market and the rise in single-parent families has meant that adolescents now spend less time with parents or adults, leaving greater time unsupervised and with peers (Dornbusch et al. 1985; National Research Council 1996). Adolescents from single-parent families are more likely than their peers from two-parent families to engage in health-compromising behaviors, including delinquency, violence and unprotected sex (Dornbusch et al. 1985; Dornbusch & Gray 1988).

Poverty and low socioeconomic status especially puts adolescents at risk. Youth from low-income families experience higher rates of poor physical and mental health, are more likely to engage in delinquent acts, have early and unprotected sexual intercourse, and are more likely to experience adolescent pregnancy, be arrested, and drop out of school (Duncan & Brooks-Gunn, 1997; Haveman & Wolfe 1994; Harris & Marmer 1996). Adolescents in welfare-dependent families exhibit the worst physical and mental health, and tend to engage in earlier onset of sexual activity and greater violence (Bridgman & Phillips 1998). There are cumulative disadvantages associated with poverty and welfare receipt. For example, economic stress reduces parents' abilities to be supportive and nurturing of children (Elder et al. 1992; McLoyd 1990), and family poverty is typically associated with other forms of deprivation in the social environment, including low-quality schools and unsafe neighborhoods.

Schools are an important context for the development of adolescent health behaviors. Because adolescents spend so much of their time in school, most of their social contacts are concentrated in the school environment where they develop social networks through interpersonal interaction with same-age peers (Feld 1981). Interactions with fellow students and exposure to friends' families and parents play important socialization roles, provide normative structuring of behaviors, and shape adolescents' aspirations for their future. School context can influence adolescent behavior through two mechanisms (Ku, Sonenstein & Pleck 1993). First, the school climate may structure norms and values—adolescents see what is common and assume such attitudes, expectations, and behaviors are socially acceptable. For example, if the school norm is to go on to college, adolescents will expect to do so (Meyer 1970). Second, school context impacts attitudes and behaviors through perceived social and economic opportunities available. The composition of the social and economic status of students' parents in the school serves as a model of what students themselves might expect to achieve in their adult lives.

Research has given insufficient attention to the impact of future orientations and attitudes on adolescent risk behavior, focusing on the issue only in regard to sexual behavior (Luster & Small 1994; Ohannessian & Crocket 1993; Plotnick 1992). We find it compelling to consider that adolescents with low expectations for their future have less to lose than adolescents who experience healthy lifestyles, educational accomplishment, and economic attainment, and thereby have greater expectations for their futures. Indeed, considerable empirical support in the teenage fertility literature suggests the "opportunity costs" hypothesis that teens with fewer economic opportunities, in particular minority and poor youth, choose to have children outside of wedlock at an early age because the costs of an early out-of-wedlock birth are small relative to those women with greater opportunities (see Duncan 1995). In this article we broaden this perspective and examine whether adolescents with "nothing to lose" attitudes for the future are more likely to engage in risk-taking behavior than adolescents who have more to lose in their future.

Conceptual Model

Fishbein and Ajzen developed a theory of “reasoned action” that tries to account for the relationship between attitudes and behavior (Fishbein & Ajzen 1975; Ajzen & Fishbein 1980). They argue that an individual’s perception of the severity of expected outcomes of some behavior plays a major role in formulating behavioral intentions. Their theory and related research furthermore imply that adolescents possess the cognitive abilities to formulate rational behavioral intentions based on perceived attitudes about the risks and benefits associated with engaging in such behavior (Ajzen 1989; Fitzpatrick 1997).

We therefore hypothesize that adolescents who express high expectations for their future health and education will perceive greater risks associated with engaging in risk behaviors and will avoid risk taking in contrast to adolescents with low expectations for their futures. We address this hypothesis at two levels: individual and aggregate school-level expectations for the future. We expect the relationship to be stronger at the individual level because individual expectations would bear directly on individual behavior, whereas contextual effects operate through school climate, and are likely to be indirect and often quite modest (Duncan & Aber 1997). Nevertheless, we expect normative standards in the social networks of a school represented by classmates’ attitudes, mental outlook, and expectations for the future to influence teens’ involvement in risk behaviors (Billy & Udry 1985).

We examine three domains of risk taking: sexual behavior, drug dealing, and weapon carrying. Although our focus is on individual- and school-level expectations, our conceptual model includes other individual- and school-level variables that tap theoretical processes associated with the supervision of youth behavior, role modeling, and normative climate that operate to influence adolescents’ propensities to engage in risk behavior.

We model three social and economic conditions at both the individual and school level: parents’ education, family structure, and welfare receipt. The economic and social roles that parents assume serve as models and influence their children’s attitudes and expectations for their own futures (Wilson 1996). In addition, one-parent families are less effective in supervising youth and socialize children to be more accepting of alternative family forms (Hogan & Kitagawa 1985; McLanahan & Sandefur 1994; Wu & Martinson 1993).

Role modeling, supervision, and socioeconomic opportunity effects also operate at the school level (National Research Council 1996). The prevalence of single-mother families on welfare in a school operates as a model of future family structures and financial responsibility youth can expect to assume. Furthermore, schools provide more successful role models when the student body has many well-educated parents, few parents receiving welfare, and students from intact families. These schools also provide a collective supervision of youth, promoting high expectations for future adult attainments and fostering greater costs associated with risk behavior. School climate can also be characterized by classmates’ mental health.

Schools in which aggregate mental health is poor are likely to create a climate for risk taking because aspirations and plans for the future may be muted by collective feelings of hopelessness and depression (Dryfoos 1998).

We control for several individual-level attributes associated with risk behavior, including mental health, cognitive ability, and physical developmental indicators, as well as for race and ethnicity (Earls 1993; Millstein, Petersen & Nightingale 1993). We also control for place and region of residence to account for regional and urbanicity differences in adolescent risk behavior (National Research Council 1993, 1996). In order to capture the onset of risk behavior and to focus on youth for whom the consequences of risk behavior may be especially critical, we limit our sample to younger adolescents and control for age.¹ We run all models separately for boys and girls.

Data

We use data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative study of adolescents in grades 7 through 12 in the U.S. in 1995. Add Health was designed to help explain the causes of adolescent health and health behavior with special emphasis on the effects of multiple contexts of adolescent life. The study used a cluster sample design that was multistage and school-based. The stratified sample of 80 high schools was selected with probability proportional to size.² For each high school, a feeder school was also selected with probability proportional to its student contribution to the high school. The school-based sample therefore has a pair of schools in each of 80 communities.³

An in-school questionnaire was administered to every student who attended each selected school on a particular day during the period of September 1994 to April 1995. The in-school questionnaire was completed by more than 90,000 adolescents. Using the school rosters, a random sample of some 200 students from each school pair were then selected for in-home interviews and produced the core in-home sample of about 12,000 adolescents. A number of special samples (e.g., ethnic and genetic) were also selected on the basis of in-school responses. The core plus the special samples produced a total sample size of 20,745 adolescents in wave 1.

The in-home interviews were conducted between April and December 1995, yielding the wave 1 data. A parent, generally the mother, was also interviewed in wave 1. The one- to two-hour interview was done using a laptop computer with confidential audio-CASI sections for the more sensitive questions such as those asking about illegal and other risk behavior. All adolescents in grades 7 through 11 in wave 1 (plus 12th graders who were part of the genetic sample) were followed up one year later for the wave 2 in-home interview in 1996. Bearman, Jones, and Udry (1997) provide a more detailed description of the Add Health study.

To help sort out the paths of causal influence, our analytic design is careful to take measures of expectations prior to our behavioral measures. Exploiting the longitudinal design of Add Health, we use expectation measures from the in-school interview and relate them to change in risk behavior between the wave 1 and wave 2 interviews. As a result, our sample is limited to those adolescents who completed an in-school interview and who were interviewed at both wave 1 and wave 2 ($N = 10,192$). To ensure that our sample is not selected on the basis of achievement or behavior, we chose to limit the age range for our adolescents to 13 to 18 at the time of the wave 1 interview. While there were a few 11- and 12-year old respondents at wave 1, these students are much younger than the typical 7th or 8th grader and have probably been promoted to the upper grade level based on achievement. For each health risk behavior that we examine, we impose further sample restrictions (detailed below) on the basis of age in order to capture the period of early onset of the risk behavior in samples of teens for whom such behavior is far from normative.

Contextual information in Add Health is based on the expectations of all students in sampled schools. However, our analysis sample consists of the random 20% of all students who provided the in-person interview responses to the questions on risk-taking behavior. We therefore have data on expectations about the future at both the school and individual level, enabling us to examine both the school-level and the individual-level effects of future expectations on adolescent risk behavior, with the expectation that the combination of low expectations at both the individual and school level is more powerful than their additive effects. Our descriptive analysis is based on weighted data; regression analysis uses unweighted data with controls for the factors associated with differential sampling probabilities of youth. In all regression models, we also adjust our standard errors for the effects of student clustering within schools.

Measures

HEALTH RISK BEHAVIOR

We chose three domains of risk behavior for this analysis — sexual behavior, weapon use, and selling drugs — for which perceptions of the severity of expected outcomes is likely to be particularly salient. Early sexual behavior, drug dealing, and weapon use are behaviors that have long-term consequences, whereas other risk behaviors, such as fighting or use of marijuana, may not.

To ensure that attitudes precede behavior, we measure the “onset” of risk behavior in these three domains. We first identified the ages at which the majority of adolescents had not yet engaged in the risk behavior.⁴ On the basis of this exploratory work, we restricted our samples to specific ages for analysis of each risk behavior to capture early onset. We did not include in our sample adolescents

who experienced onset of risk behavior at ages beyond the most common onset ages. This is because of our interest in studying the high-risk adolescents who engage in these behaviors at the youngest ages when the probability of negative consequences is greatest, and because older adolescents at risk of onset are a highly selective subset of their agemates.⁵

Among adolescents in specified ages who had not yet engaged in the risk behavior at wave 1, we coded a dichotomous dependent variable equal to 1 if the adolescent experienced onset of the specific risk behavior by wave 2, and coded it equal to 0 otherwise. We use logistic regression models to estimate the effects of expectations and other covariates on the onset of risk behavior.⁶ We examine the onset of sexual activity, selling drugs, and weapon use.

Onset of Sexual Activity

Adolescents were asked whether they had ever had sexual intercourse in both the wave 1 and wave 2 interviews. If they answer yes, they are asked the date of first sexual intercourse, from which we computed the age at first intercourse. Among those adolescents who had not had first sex by wave 1, onset of sexual activity is indicated by those who experienced first sexual intercourse by wave 2. Based on our exploratory analysis, we chose the wave 1 ages 13-15 as the sample's initial age range for our logistic analysis of onset of first sex ($n = 1668$ boys; 2139 girls).

Onset of Selling Drugs

In both the wave 1 and wave 2 interviews, adolescents were asked how often they sold marijuana or other drugs. Among adolescents who reported that they had never sold drugs at wave 1, onset of drug selling is indicated for those adolescents who report involvement in selling drugs by wave 2. Because the incidence of onset for selling drugs is too infrequent for girls, we restrict our analysis of this risk behavior to boys aged 13-16 ($n = 2925$).

Onset of Weapon Use

Adolescents were also asked how often they used or threatened to use a weapon to get something from someone at both the wave 1 and wave 2 interviews. Onset of weapon use is indicated for those adolescents who reported that they had never used or threatened with a weapon at wave 1, but had used or threatened with a weapon at least once by the wave 2 interview. Those at risk for onset but never experiencing onset are those adolescents who reported that they had never used or threatened with a weapon at both wave 1 and wave 2 interviews. Our analysis of weapon use onset is also limited to boys aged 13 to 16 ($n = 2957$).

INDIVIDUAL AND SCHOOL-LEVEL MEASURES

Expectations

A set of questions asked adolescents about their expectations in a number of life-course domains. Because several of the questions were overlapping and highly correlated, we selected two of these questions for analysis. On an 9-point scale from "no chance" to "it will happen," adolescents were asked about the chance that they will: (1) live to age 35; and (2) graduate from college. We transformed the 9-category response scale into percentage chance by assigning 0 to a "0" on the scale (labeled "no chance"), .25 to a "2" ("some chance"), .50 to a "4" ("About 50-50"), .75 to a "6" ("pretty likely"), and 1.0 chance to a response of "8" ("it will happen"). The four unlabeled response categories between these values were assigned the midpoint of these scores.

We also constructed school-level measures of these two expectations to capture the school climate of same-sex grademates' future expectations. We computed the grade- and gender-specific average response to the expectation of living to age 35 and graduating from college, expressed as a percentage chance.

Mental Health Problems Index

We constructed a mental health problems index based on seven items dealing with symptoms of emotional distress such as having trouble with eating, difficulty falling asleep, feeling depressed or blue, crying a lot, and being afraid. Response categories range from 0 (never) to 4 (every day). We divided the response range by 4 and created an index of the sum of the nonmissing rescaled items, divided by the number of nonmissing items, resulting in scores that range from 0 to 1. Exactly 10% of the in-school sample reported no symptoms; index scores averaged .249. The internal reliability of the index, as measured by Cronbach's alpha, was .83 (based on 79,359 students with valid data).

A school-level mental health problems index is constructed as the average index for each gender and grade combination in schools. This measure represents the normative climate of mental health, reflecting aggregate feelings of hope or hopelessness, with implications for the collective future outlook among same-sex grademates.⁷

Family Structure and Welfare Receipt

Family structure is represented as three dummy variables at the individual level of measurement: two biological parents (reference category); two parents in which at least one parent is not biological (including step-, adopted, or foster parents or a parent's partner); and other family structures (including mother- and father-only families, or families in which there is no "parent" but adolescents live with grandparents, other relatives, nonrelatives, or in a group home).

Whether the adolescent lives in a welfare home at wave 1 is measured by parental reports of welfare receipt (AFDC or food stamps). We include an individual-level indicator of welfare receipt to control for family-level poverty status.

To capture the school context effects of both socioeconomic status and normative climate, we combined family structure and welfare receipt indicators and constructed a school-level measure of the average proportion of adolescents who live with a single mother who receives welfare. To capture school context effects of normative climate and collective supervision that might operate independently of school-level socioeconomic status, we also include a measure of the average proportion of adolescents in the school who live with a single mother who does not receive welfare.⁸

Parents' Education

Mother's and father's education is measured as completed years of schooling for each resident parent. A substantial proportion of adolescents has missing data on parents' education, especially adolescents who do not live with a father. To adjust for the potential bias associated with systematic differences between those with valid and missing data, we include a dummy variable for missing data on mother's and father's education in our regression models.

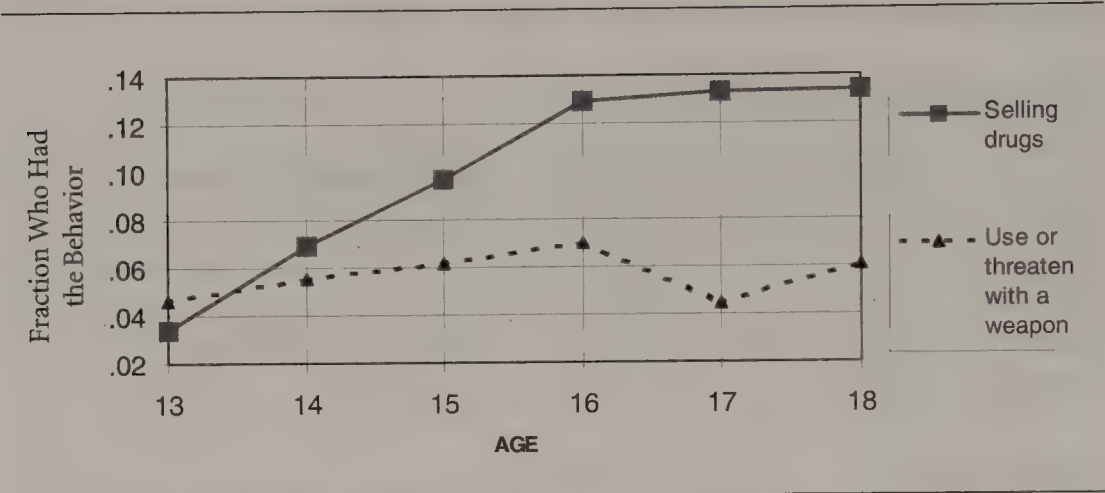
Our school-level socioeconomic status measure is the average level of mother's education in the school. Because our school-level measures are based on the school census using the in-school sample, this measure is based on all cases with valid data on mother's years of schooling from the in-school interview.

Individual Characteristics

Age is measured in years and we include dummy variables for the ages in the ranges specific to each analysis of risk behavior. Cognitive ability is measured by the Add Health version of the Peabody Picture Vocabulary Test-Revised (AHPVT). We use the age-standardized scores on this vocabulary test. Race and ethnicity is represented as four dummy variables: non-Hispanic white (reference category), non-Hispanic black, other races (Asian and Native American), and Hispanic.

We control for sex-specific physical development indicators. We include three indicators for boys: (1) amount of hair under arms, ranging from 1 (no hair at all) to 5 (as much hair as a grown man); (2) amount of hair on face, ranging from 1 (a few scattered hairs) to 4 (thick hair like a grown man's facial hair); and (3) whether their voice is lower than it was in grade school, ranging from 1 (no) to 5 (like an adult's man's voice). For each of these indicators, we transformed the response range to be 0 to 1. Girls report on (1) the size of their breasts relative to grade school, ranging from 1 (about the same) to 5 (like a grown woman's breasts) and (2) whether

FIGURE 1: Fraction of Boys, Ages 13 to 18, Selling Drugs or Threatening with a Weapon



their body is curvy compared to grade school, ranging from 1 (same as in grade school) to 5 (a whole lot curvier than in grade school). We also transformed the response range to be 0 to 1 for these two measures of girls' physical development. In addition, from reported age at first menstruation, we include (3) months old at first menstruation; and (4) months since first menstruation.

Residence

A final set of dummy variables measures residential and school location. Regional dummies include West, Midwest, South, and Northeast (reference). School location dummies include urban, suburban, and rural (reference) locations.

Results

DESCRIPTIVE STATISTICS

Kaplan-Meier survival curves reveal that roughly equal fractions (around 22%) of boys and girls have had sex by age 15; at ages beyond 15, the survival curve of girls falls below that of boys, indicating a somewhat heightened onset of sexual intercourse for girls relative to boys between ages 16 and 19, the end of our data's observation window (results not shown). Our analysis of early transitions to first sex between the two in-home interviews is based on samples of boys and girls aged 13-15 who, as of the first in-home interview, had not engaged in sexual intercourse.

Age patterns of selling drugs and using or threatening to use a weapon for boys are displayed in Figure 1. These data are taken from the initial in-home survey, representing the incidence of ever engaging in each risk behavior. Both events are

TABLE 1: School Averages at the 10th, Median, and 90th Percentiles for Boys and Girls

School Averages	10th Percentile	Median	90th Percentile
Boys			
1. Average mother's education	11.917	12.995	14.131
2. Average proportion of single mothers	.098	.167	.318
3. Average mental health problems index	.150	.184	.217
4. Average expectation of living to age 35	.739	.819	.853
5. Average expectation of graduating from college	.643	.742	.840
Girls			
1. Average mother's education	11.850	12.845	13.957
2. Average proportion of single mothers	.096	.193	.341
3. Average mental health problems index	.244	.312	.359
4. Average expectation of living to age 35	.775	.838	.876
5. Average expectation of graduating from college	.754	.817	.884

Source: National Longitudinal Study of Adolescent Health, in-school data

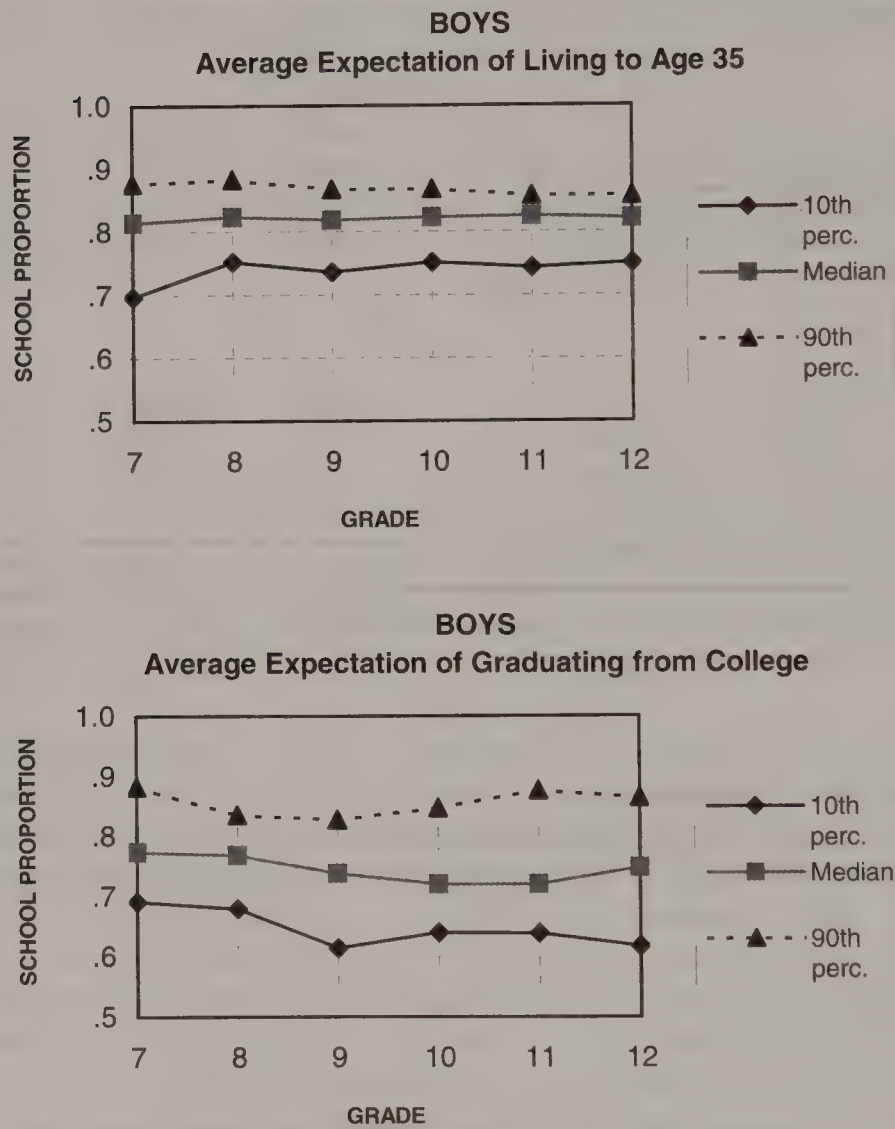
relatively rare, however there is a substantial increase in selling drugs by age, but no age pattern for weapon use. At age 13, around 4% of boys report both that they have sold drugs and have used or threatened others with a weapon. By age 17, the proportion involved in selling drugs increases to over 13%, whereas the proportion who used a weapon remains roughly the same.

Because of the interrelatedness of risk behavior, we were concerned that the same adolescents might be involved in drug selling and weapon use, especially at the ages with similar frequencies. However, these risk behaviors do not typically occur together for the same people at the same time. While a majority (61%) of the 13- year-old boys who reported selling drugs also reported using or threatening others with a weapon, comparable fractions at older ages fall steadily so that by age 18, less than one-quarter of reported drug sellers reported weapon use.

Table 1 presents descriptive data on our five school-based measures. To provide an idea of the range of school conditions, we ranked schools (in the case of the first two measures) and sex-specific grademates (in the case of the last three) according to average scores on these five measures. After weighting by the number of individuals in the given school or grade, we calculated the average scores across grades corresponding to the 10th, median, and 90th percentile schools for boys in the top panel and girls in the bottom panel.

Classmates of the median student report mothers who have completed about 13 years of schooling with a 10th-90th percentile range of about two years. Between

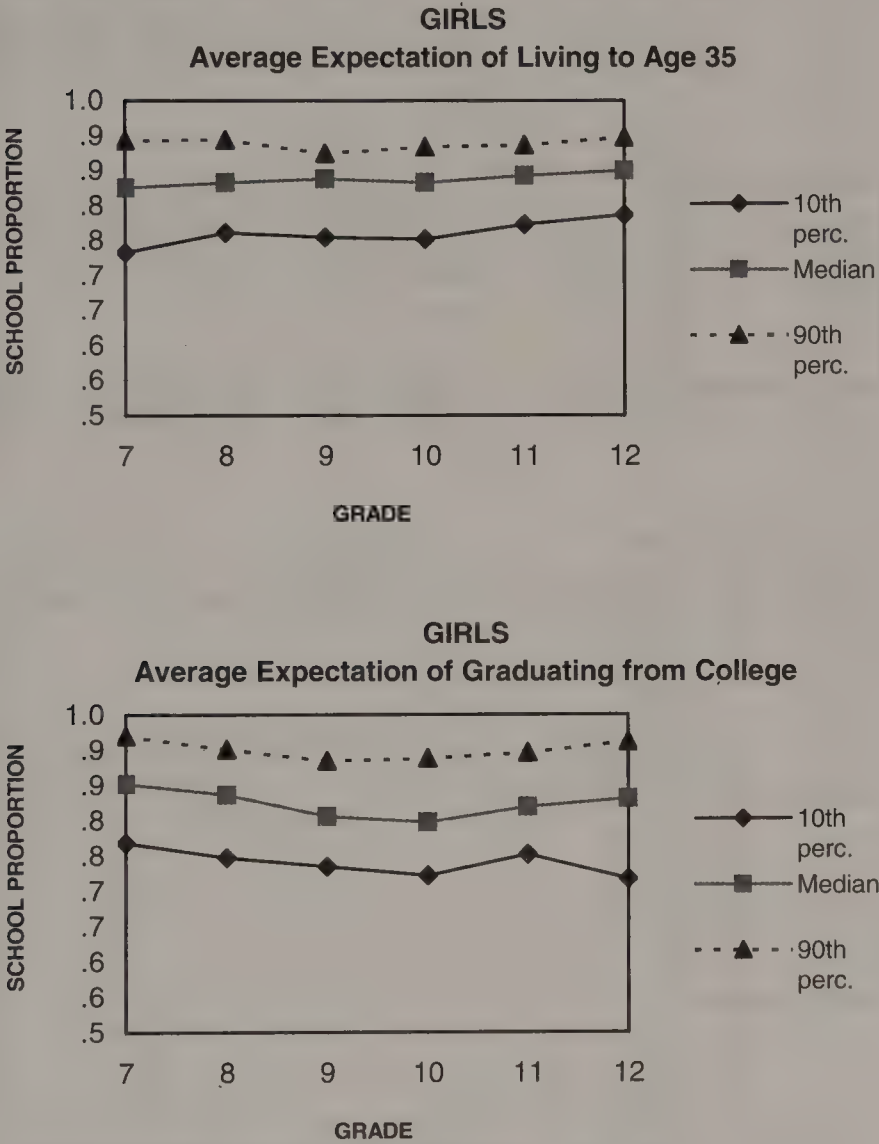
FIGURE 2A: Average Expectations of Living to Age 35 and of Graduating from College for Boys



17 to 19% of the median student's classmates reported single-mother family structures (the breakdown by welfare receipt indicates that less than 5% also receive welfare — not shown). Tenth to 90th percentile proportions of students living in single-mother families ranged from just under 10% to around 34%. The range for proportions of students living with a single mother on welfare is much smaller.

Our mental health and expectations measures are measured for same-sex grademates and display different patterns for the boys and girls in the same schools. Male grademates of the median male student reported lower average scores on the

FIGURE 2B: Average Expectations of Living to Age 35 and of Graduating from College for Girls



mental health problems index (.184) than female grademates of the median female student (.312), and have a smaller 10th-90th percentile range as well. In addition, the mental health problem index increases between grades 7 and 12, more so for girls than for boys, as does the 10th-90th percentile range, especially for girls who display greater variability on this measure (data not shown).

Male grademates of the median male student reported an 82% likelihood of living to age 35⁹ and a 74% likelihood of graduating from college. Girls' female

TABLE 2: Onset of First Sex for Boys Aged 13 to 15

	Boys Ages 13-15					
	Bivariate				Mean	Std. Dev.
	Coef.	Std. Err. ^b	Coef.	Std. Err. ^b		
School and grade/gender mates variables						
Average mother's education in school	-.307*	.085	-.118	.127	13.018	.936
Average single mothers on welfare in school	6.208*	1.310	3.400*	1.671	.050	.051
Average single mothers not on welfare in school	4.532*	1.169	3.496*	1.368	.141	.058
Average mental health problems index ^a	3.460	2.665	2.419	2.655	.172	.029
Average expectation of living to age 35 ^a	-3.055*	1.557	-.260	1.564	.821	.056
Average expectation of graduating from college ^a	-3.218*	.919	-.153	1.477	.765	.069
Individual and family characteristics						
Picture Vocabulary Test standardized scores	-.020*	.005	-.013*	.006	104.510	13.832
Mental health problem index	.899*	.413	.836+	.455	.171	.158
Age (13-year-old omitted)	.704*	.208	.565*	.222	.317	.466
14-year-old	.942*	.208	.730*	.223	.399	.490
15-year-old						
Physical development	1.590*	.321	1.107*	.414	.457	.232
Hair under arms	1.172*	.281	.612+	.341	.155	.219
Hair on face	.657*	.250	.518+	.279	.542	.304
Voice lower than it was when in grade school						
Family structure (two biological parents omitted) and characteristics						
Two parents other than both biological	.609*	.173	.571*	.190	.158	.365
Other (single mom, single dad, other)	.676*	.159	.482*	.206	.192	.394
Mother's education	-.052*	.021	-.024	.029	13.369	3.040
Father's education	-.046*	.023	.014	.032	13.433	2.929
Welfare receipt	.730*	.208	.157	.234	.080	.272

Race (Non-Hispanic white omitted)						
Non-Hispanic black	.899*	.206	.543†	.285	.115	.319
Hispanic	.311	.237	-.072	.279	.095	.294
Other	.290	.222	.160	.244	.149	.356
Region (Northeast omitted)						
West	-.483+	.266	-.626*	.246	.176	.381
Midwest	-.138	.230	-.244	.222	.239	.426
South	-.207	.214	-.498*	.211	.403	.491
Urbanicity (rural omitted)						
Urban	-.025	.205	-.205	.228	.298	.457
Suburb	-.268	.180	-.195	.208	.514	.500
Individual expectations						
Of living to age 35	-.698*	.275	-.117	.335	.298	.457
Of graduating from college	-.918*	.256	-.630*	.303	.514	.500
Constant			-.303*	1.755		
(n = 1,688)						

Notes:

^a Grade and gender specific average.

^b Robust standard errors, correcting for clustering at the school, gender and grade level.

Mean on onset of first sex: .15. Missing value indicators are included in the regressions for the following variables: picture vocabulary test, mental health problems index, physical development variables, mother's and father's education, welfare receipt, race, and individual expectations.

Source: National Longitudinal Study of Adolescent Health, in-school, wave 1 and wave 2 data.

† $p \leq .10$ * $p \leq .05$

grademates report somewhat higher probabilities with an 84% and 82% likelihood of living to age 35 and graduating from college for the median female student. Figures 2A and 2B breaks these down further by grade to show the trend in expectations measures across the grade/school combinations for boys and girls in our sample. Although expectations of living to age 35 are roughly constant at around .8 for both boys and girls, there is some tendency for the distribution of scores to converge across grade. In contrast, average expectations of graduating from college fall from middle school to early high school, perhaps as students develop more realistic expectations. There is a much broader range of average expectations across grade/school combinations for graduation than living to age 35; and the dispersion of graduation expectations increases with age, especially for boys.

REGRESSION RESULTS

Table 2 summarizes results from our logistic regressions of onset of first sex for boys. To minimize bias associated with missing values and to maximize the number of cases for analysis, in all regressions we include dichotomous missing value indicators for respondents with missing data on any given variable included in our models, and we assign the mean sample value to those with missing data.¹⁰

The first two columns of Table 2 present coefficients and standard errors from a series of bivariate regressions in which onset is regressed on each (or, in the case of categorical measures, each set of) independent variable. We find 14- and, especially, 15-year-olds to be much more likely to report onset of first sex than 13-year olds. Onset is negatively correlated with school SES (as measured by school-level mother's schooling), but positively correlated with the prevalence of students living in single-mother families, especially the prevalence on welfare. Consistent with a nothing-to-lose interpretation, students whose same-sex grademates report lower expected probabilities of living to age 35 and lower expected probabilities of college graduation are more likely to report early onset of first sex.¹¹

Among the family and individual characteristics, the bivariate associations proved statistically significant and negative (i.e., reduced the risk of onset of first sex) for age-standardized scores on the vocabulary test, years of schooling completed by mothers and fathers, and expectations of living to age 35 and of graduating from college; and positive (i.e., increased risk of onset) for the mental health problems index, the three physical development indicators, step-family and single-parent or other family structures, family welfare receipt, and black race/ethnicity.

Regression-based adjustments reduce many of these associations to statistical insignificance.¹² As shown in the third and fourth columns of Table 2, the only aggregate measures still significant are those associated with single-mother family structures. Relative to students in schools with two-parent families, students in schools with a rate of single-mother families on welfare that is one standard deviation (5.1 percentage points) above the all-school mean have a 19% ($e^{3.400 \cdot .051}$) higher risk of onset of first sex, and students in schools with a one standard

deviation higher rate of single mother families *not on welfare* have a 22% ($e^{3.496 * .058}$) higher risk. School-level SES, as indicated by maternal schooling, is insignificant. Thus, role modeling and collective supervision mechanisms associated with the prevalence of single-parent households in a school context seem to be more important than the prevalence of low socioeconomic status of such families.

The boys' own family structures appear to matter as well: risks of first sex are 77% ($e^{.571}$) higher for boys living in step families and 62% higher for boys in single-parent or nonparent family structures (as opposed to two biological parent). Boys with higher cognitive test scores have significantly lower risks, whereas boys with higher scores on the mental health problems index have marginally higher risks. Boys who are more physically developed in terms of hair under arms also have higher risks of sexual activity onset. Age continues to have statistically significant effects, while residence in the western and southern regions tends to reduce the risks of onset of sex for boys. Finally, the sense of having "nothing to lose," reflected by low expectations of graduating from college, continues to increase the likelihood of onset of first sex for boys net of school- and family-level and other individual effects.

The significant bivariate effects of aggregate school-level expectations disappear in the presence of other school- and family-level conditions. The significant bivariate effect of the individual expectation of living to age 35 disappears once we adjust for boys' cognitive ability and mental health in the onset-of-first-sex model.

The regression models of onset of first sex for girls (Table 3) reveal fewer significant effects than the models for boys. Although there is bivariate support for our "nothing to lose" hypothesis, none of our expectations measures is significant in the presence of regression controls.¹³ Neither school-level (mother's education) or individual-level SES (parental education and welfare receipt) is important for the onset of first sexual experience for girls. However, role modeling and the lack of collective supervision associated with the prevalence of single-mother families in a school is important only in the presence of low socioeconomic status measured by single mothers' welfare receipt. Girls in schools who are one standard deviation (5.4 percentage point) higher in terms of single-mother families *on welfare* have a 21% ($e^{3.477 * .054}$) higher risk of sexual activity onset. The prevalence of students living with single mothers who are not on welfare has a positive but statistically insignificant association with girls' onset of first sexual experience.

Both contextual and individual mental health problems increase the likelihood of onset of first sex for girls. Girls in schools with a one standard deviation higher score on the mental health problems index (relative to the mean across schools) have a 22% higher risk of onset of sex; while an increase in one standard deviation in girls' individual mental health problems was associated with a 26% increase in the risk of subsequent onset of first sex. This regression-adjusted association is stronger than that of boys. A striking difference between the models for girls and boys is that cognitive test scores had virtually no regression-adjusted associations with onset of first sex for girls.

TABLE 3: Onset of First Sex for Girls Aged 13 to 15

	Girls Aged 13-15					
	Bivariate					
	Coef.	Std. Err. ^b	Coef.	Std. Err. ^b	Mean	Std. Dev.
School and grade/gender mates variables						
Average mother's education in school	-.112	.079	.079	.103	13.003	.953
Average single mothers on welfare in school	2.654*	1.305	3.477*	1.732	.053	.054
Average single mothers not on welfare in school	2.371*	1.170	1.960	1.325	.144	.058
Average mental health problems index ^a	7.360*	1.608	4.238*	2.100	.282	.047
Average expectation of living to age 35 ^a	-2.730*	1.343	.545	1.924	.829	.051
Average expectation of graduating from college ^a	-2.367*	1.170	.574	1.403	.830	.063
Individual and family characteristics						
Picture Vocabulary Test standardized scores	-.007	.004	-.004	.004	101.739	14.074
Mental health problems index	1.977*	.296	.230*	.045	.271	.187
Age (13-year-old omitted)						
14-year-old	.903*	.201			.301	.434
15-year-old	.976*	.197			.437	.456
Physical development						
Breast	1.024*	.215	.369	.274	.547	.253
Body curves	1.144*	.215	.512+	.269	.541	.264
Number of month old at first menstruation	-.009*	.004	.022*	.009	150.840	13.887
Number of months since first menstruation	.021*	.003	.027*	.008	23.138	17.055

Family structure (two biological parents omitted) and characteristics

Two parents other than both biological	.616*	.160	.447*	.170	.149	.356
Other (single mom, single dad, other)	.582*	.140	.426*	.181	.256	.436
Mother's education	-.059*	.019	-.034	.026	13.116	2.910
Father's education	-.056*	.019	-.029	.025	13.040	3.013
Welfare receipt	.284†	.173	-.140	.204	.113	.317
Race						
Non-Hispanic black	.262	.187	-.070	.217	.145	.352
Hispanic	.230	.213	.006	.265	.087	.283
Other	-.094	.174	-.238	.224	.142	.349
Region						
West	-.157	.208	-.306	.217	.187	.390
Midwest	-.036	.232	-.201	.218	.255	.436
South	.213	.196	.159	.211	.388	.487
Urbanicity						
Urban	-.302	.215	-.289	.221	.311	.463
Suburb	-.135	.197	-.009	.184	.509	.500
Individual expectations						
Of living to age 35	-.565*	.243	-.223	.274	.845	.210
Of graduating from college	-.465†	.247	-.136	.292	.854	.216
Constant						
(n = 2,139)			-8.681*	2.311		

Notes:

^aGrade and gender specific average.

^bRobust standard errors, correcting for clustering at the school, gender and grade level.

Mean of onset of first sex: .18. Missing value indicators are included in the regressions for the following variables: picture vocabulary test, mental health problems index, physical development variables, mother's and father's education, welfare receipt, race, and individual expectations.

Source: National Longitudinal Study of Adolescent Health, in-school, wave 1 and wave 2 data.

† $p \leq .10$ * $p \leq .05$

TABLE 4: Onset of Selling Drugs for Boys Aged 13 to 16

	Bivariate			Boys Aged 13-16		
	Coef.	Std. Err. ^b	Coef.	Std. Err. ^b	Mean	Std. Dev.
School and grade/gender mates variables						
Average mother's education in school	-.045	.077	-.205	.129	12.963	.920
Average single mothers on welfare in school	.770	1.417	1.841	1.806	.054	.054
Average single mothers not on welfare in school	-.099	1.306	.351	1.632	.147	.055
Average mental health problems index ^a	5.771*	2.201	6.532*	2.505	.176	.030
Average expectation of living to age 35 ^a	1.161	1.402	2.415	1.782	.815	.054
Average expectation of graduating from college ^a	-.048	.933	2.430	1.589	.752	.075
Individual and family characteristics						
Picture Vocabulary Test standardized scores	.002	.005	.005	.006	103.253	13.842
Mental health problems index	.885*	.453	.231	.488	.173	.157
Age (13-year-old omitted)						
14-year-old	.196	.324	-.070	.295	.177	.365
15-year-old	.423	.301	.097	.267	.211	.408
16-year-old	.512	.281	.062	.282	.291	.454
Physical development						
Hair under arms	1.482*	.325	1.370*	.405	.511	.235
Hair on face	.775*	.309	.276	.351	.189	.238
Voice lower than it was when in grade school	.135	.251	-.234	.268	.566	.312
Family structure (two biological parents omitted) and characteristics						
Two parents other than both biological	.341†	.196	.168	.207	.179	.384
Other (single mom, single dad, other)	-.107	.194	-.410†	.237	.232	.422
Mother's education	-.014	.025	.009	.031	13.163	3.022
Father's education	-.012	.030	.010	.035	13.189	2.931
Welfare receipt	-.135	.251	-.275	.294	.195	.396

Race (Non-Hispanic white omitted)						
Non-Hispanic black	.156	.209	.377	.274	.155	.362
Hispanic	.318	.216	.408	.284	.106	.308
Other	.289	.234	-.172	.246	.165	.371
Region (Northeast omitted)						
West	-.209	.223	-.104	.246	.182	.386
Midwest	-.404†	.222	-.467*	.235	.244	.430
South	-.476*	.212	-.382	.235	.402	.490
Urbanicity (rural omitted)						
Urban	-.054	.230	-.220	.288	.281	.450
Suburb	.134	.207	.102	.250	.530	.499
Individual expectations						
Of living to age 35	-1.114*	.270	-.946*	.323	.837	.241
Of graduating from college	-.902*	.254	-.651*	.303	.787	.260
Constant			-5.281*	1.838		
(n = 2,925)						

Notes:

^a Grade and gender specific average.

^b Robust standard errors, correcting for clustering at the school, gender, and grade level.

Mean of onset of selling drugs: .06. Missing value indicators are included in the regressions for the following variables: picture vocabulary test, mental health problems index, physical development variables, mother's and father's education, welfare receipt, race, and individual expectations.

Source: National Longitudinal Study of Adolescent Health, in-school, wave 1 and wave 2 data.

† $p \leq .10$ * $p \leq .05$

Although the breast and body curves physical development indicators are not important in the presence of regression controls, the length of time since first menstruation, controlling for the age at first menstruation, is an important exposure factor affecting onset of first sex. (Note that we cannot include age in the model with our menstruation timing and exposure measures because of high collinearity.)

Individual-level family structure also matters for girls. Girls living in step-parent families and in single-parent or nonparent structures have significantly higher risks of first sex than girls living with both biological parents. This is consistent with literature indicating precocious sexual behavior among girls in step-parent and single-mother families (Wu, Cherlin & Bumpass 1997).

In regard to selling drugs, the results suggest that our expectation measures have a stronger association with subsequent onset of drug selling than conventional demographic measures, and these findings remain in the adjusted regressions of Table 4. At the individual level, more positive expectations of both living to age 35 and graduating from college are associated with a reduced risk of onset of drug selling. Boys with a one standard deviation higher score on the expectancy measure have a 20% lower risk of selling drugs, while boys with a one standard deviation higher score on expectations of college graduation have a 16% lower risk. Worse mental health at the school level has a significant positive association with onset of drug selling. Again, the important physical development indicator for boys that is positively associated with onset of drug dealing is the amount of hair under arms.

Risk behavior involving the onset of weapon use is associated with aggregate and individual expectations for the future in bivariate analysis (Table 5). School contexts characterized by high average expectations of living to age 35 have lower risks of boys using or threatening with a weapon. Boys with more positive expectations of both living to age 35 and graduating from college experience lower risks of onset of weapon use.

Regression adjustments left only the aggregate expectancy coefficient significant, although the individual expectation of college graduation is still marginally significant ($p < .10$).¹⁴ Boys who attend schools with a one standard deviation higher expectation of living to age 35 have a 23% lower risk of onset of weapon use. For this risk behavior, we find that poor student mental health at the individual level is associated with a greater likelihood of using or threatening with a weapon. Finally, the most important physical development indicator that is related to onset of weapon use for boys is the growth of facial hair. Family structure, race, and regional measures had significant bivariate associations with onset of weapon use that were rendered insignificant in the presence of regression adjustments.

We explored possible interactions across the race/ethnicity subgroups in our sample as well as interactions between the individual and school-level measures (not shown — results available from authors). There were no consistent interactions across our set of outcomes. The deterring effect of high expectations of completing college in the onset to first sex model was less for girls in non-Hispanic black and

“other” race categories (Asian and Native American) than it was for non-Hispanic white girls (p of log-likelihood test $< .01$). Finally, the combined effect of high expectations of graduating from college at the school and individual levels was marginally ($p = .07$) less than the sum of the main effects for boys in the weapon use models.

Discussion

This article estimates association between adolescents’ expectations for their future in terms of health and educational attainment and their decisions to engage in risk behaviors involving early sexual intercourse, selling drugs, and weapon use. We argued that adolescents with low expectations would be more likely to engage in risk-taking behavior because the risks they face represent less “loss” than the risks for adolescents with high expectations. We also argued that a school climate in which classmates’ expectations for the future were low would foster greater involvement in risk-taking behavior for individual adolescents in such schools.

Our results are consistent with but not very strong for our “nothing to lose” hypothesis. Across all outcomes there were significant bivariate associations with at least one of the expectation measures and subsequent onset of risk-taking behavior. It is interesting that this result holds across the two sex groups and across the very different behavioral domains in our analysis. Tempering our enthusiasm is the realization that only about a third of these results survived the imposition of regression controls. Bolstering our enthusiasm is that as many subjective measures survived as demographic measures. Thus, these results add to what we know about these behaviors in potentially significant ways.

Risk behavior associated with selling drugs seems to be the most responsive to a “nothing to lose” attitude. Both of our expectations measures are significantly related to subsequent onset of drug dealing. Perhaps the health risks associated with involvement with drugs, as well as the danger of engaging in illegal behavior and of dealing with sometimes desperate and violent drug users are easily perceived by adolescents as potentially affecting their future health and education with severe consequences. In addition, adolescents may have more experience with examples of family members, schoolmates, or friends whose futures have been derailed by involvement with drugs, compared to sexual behavior or weapon use.

The theory of reasoned action argues that youth consider both the benefits and costs associated with engaging in various behaviors, and are likely to avoid those behaviors in which the costs far outweigh the benefits and adopt those behaviors in which the benefits outweigh the costs. All of the risk behaviors that we examine hold some benefits for youth, such as pleasure, status, and income. Evidently the potential losses, in terms of future health and education, are especially salient for drug dealing and far outweigh any benefits associated with income or status that drug dealing may confer. Youth therefore perceive drug dealing as particularly risky.

TABLE 5: Onset of Use or Threaten with a Weapon for Boys Aged 13 to 16

	Bivariate		Boys Aged 13-16		
	Coef.	Std. Err. ^b	Coef.	Std. Err. ^b	Mean Std. Dev.
School and grade/gender mates variables					
Average mother's education in school	.003	.138	.376†	.196	12.961 .918
Average single mothers on welfare in school	2.800	1.714	2.895	2.056	.053 .054
Average single mothers not on welfare in school	.308	1.950	-1.857	2.430	.147 .054
Average mental health problems index ^a	-2.007	3.106	-3.660	3.368	.176 .030
Average expectation of living to age 35 ^a	-4.197*	1.837	-4.850*	2.080	.815 .054
Average expectation of graduating from college ^a	-.979	1.604	-1.529	1.865	.751 .074
Individual and family characteristics					
Picture Vocabulary Test standardized scores	-.009	.006	-.003	.007	103.337 13.823
Mental health problems index	1.564*	.480	1.365*	.524	.176 .161
Age (13-year-old omitted)					
14-year-old	.005	.279	-.061	.529	.206 .405
15-year-old	-.052	.263	.960*	.395	.290 .454
16-year-old	-.043	.245	-.572†	.310	.373 .482
Physical development					
Hair under arms	.090	.504	-.076	.534	.513 .235
Hair on face	.916*	.378	.986*	.397	.195 .243
Voice lower than it was when in grade school	-.554	.319	-.562	.310	.569 .314

Family structure (two biological parents omitted) and characteristics

Two parents other than both biological	.270	.506†	.276	.180	.384
Other (single mom, single dad, other)	.229	.252	.285	.234	.423
Mother's education	-.021	-.021	.040	13.151	3.033
Father's education	.033	.080†	.049	13.195	2.909
Welfare receipt	.347	.074	.372	.097	.296
Race (Non-Hispanic white omitted)					
Non-Hispanic black	.552*	.294	.360	.153	.360
Hispanic	.577	.457	.311	.115	.319
Other	.072	-.098	.340	.165	.372
Region (Northeast omitted)					
West	.017	-.072	.292	.188	.391
Midwest	-.610*	-.487	.327	.240	.427
South	-.190	-.387	.273	.398	.490
Urbanicity (rural omitted)					
Urban	.249	.151	.343	.274	.446
Suburb	.418	.360	.285	.538	.499
Individual expectations					
Of living to age 35	-1.090*	-.466	.409	.836	.242
Of graduating from college	-.984*	-.695†	.423	.783	.263
Constant		-2.367	2.419		
(n = 2,957)					

Notes:

^a Grade and gender specific average

^b Robust standard errors, correcting for clustering at the school, gender, and grade level

Mean of onset of use or threaten with a weapon: .03. Missing value indicators are included in the regressions for the following variables: picture vocabulary test, mental health problems index, physical development variables, mother's and father's education, welfare receipt, race, and individual expectations.

Source: National Longitudinal Study of Adolescent Health, in-school, wave 1 and wave 2 data.

† $p \leq .10$ * $p \leq .05$

Although our analysis focuses on risk behavior, the theory of reasoned action applies to prosocial behavior as well (Ajzen & Fishbein 1980). For example, adolescents with high expectations for educational achievement might adopt good study habits, choose an especially demanding course sequence in high school, or engage in intellectual extracurricular activities. We employ the theory of reasoned action, however, to understand why some adolescents avoid risk behavior and others engage in it in the natural course of adolescent development.

An important context for risk behavior in adolescence is the school and school-level characteristics appear to matter, even when adjusted for the individual-level counterpart measure. Omitted variable (at the individual level) bias is still possible, but these results suggest that one should pay attention to school-level conditions. Our main findings reveal that it is not socioeconomic status (i.e., mother's education) that matters, but rather "school climate" (expectations and mental health) and, for first sex, family structure. These results have implications for policies that might positively affect school climate.

The only significant contextual effect of expectations was found for onset of weapon use among boys. In a school climate characterized by students who do not expect to live beyond age 35, taking risks, such as threatening to use a weapon or carrying and using a weapon, would appear to have fewer consequences than such risk-taking in a school climate where most students do expect to live into middle adulthood.

The importance of family structure variables at both the family and school level in the onset of sexual activity regressions is striking. The family-level step-parent and single-parent results have been found in prior research (McLanahan & Sandefur 1994; Wu, Cherlin & Bumpass 1997). New here is that school-level family structure matters in addition to the individual-level family circumstances. The theoretical literature on contextual effects suggests several possible mechanisms. Role modeling influences through the prevalence of single-mother families among friends and classmates and the lack of responsible and successful male role models may socialize youth to view early sexual behavior as expected and of little consequence for their future (Wilson 1996). A climate in which many families are headed by single mothers creates a normative environment that finds nonintact family structures more acceptable. In addition, the collective absence of fathers from families and mothers who may work reduces the supervision and monitoring of adolescents and makes it easier for youth to engage in risk behavior with fewer social controls (Dornbusch et al. 1985; Hogan & Kitagawa 1985).

Role modeling and collective supervision mechanisms associated with the prevalence of single-mother families in a school seem to influence boys' transitions to sexual activity regardless of the economic status of such families. For girls, however, the prevalence of single-mother families in a school is important only to the degree that such families are poor, as indicated by welfare receipt. Since a lack of collective supervision associated with father absence and working single mothers in the families of classmates and peers would operate regardless of family poverty

behavior, and role-modeling mechanisms associated with the prevalence of welfare mothers are especially important for girls’ sexual behavior.

We also note the importance of school-level and individual-level mental health in all domains of risk behavior studied here. Aggregate mental health problems in a school increase the risks of onset of first sex for girls and drug dealing for boys. Individual-level mental health problems increase the risks of onset of first sex for boys and girls and using or threatening to use a weapon for boys. A climate of poor student emotional health and individual depressive symptoms are likely to diminish youths’ aspirations and hopes for their futures, reducing perceived risks associated with unhealthy or dangerous behaviors. Our research suggests that policies focused on youth mental health could be effective in curbing involvement in risk behavior. Interventions designed to identify mental health problems among youth and improve the emotional health of youth in schools are certainly more feasible than programs to address family structure or poverty status.

Finally, the unpredictability of the weapon use outcome is surprising. James Q. Wilson, Richard Herrnstein, and others have emphasized the role of IQ in criminal behavior (Wilson & Petersilia 1995). Herrnstein’s chapter in Wilson and Petersilia’s 1995 book, *Crime*, states: “After sex and age, the single most firmly established psychological fact about the population of offenders is that the distribution of their IQ scores differs from that of the population at large” (p. 54). Even our bivariate evidence fails to support any such link. Perhaps this discrepancy can be explained by a difference between who commits crimes and who gets caught and convicted. It is possible that adolescents who *report* weapon use are those adolescents who do not get caught or get in trouble with the law. Perhaps cognitive ability interacts with age such that the relationship between IQ and violent behavior is only important beyond the adolescent ages. The research on delinquency and problem behavior indicates that delinquent behavior is more common in adolescence than in adulthood, reflecting the exploratory nature of adolescence. Most adolescents abandon negative behaviors as they make the transition to adulthood, presumably because the risks of negative consequences are greater than any present benefit of delinquent behavior. Thus, those who become adults and are still engaging in negative and delinquent behaviors are selectively different from the more heterogeneous group of adolescents who have yet to seriously invest in their life careers.

Notes

1. As we detail in subsequent notes, when we relax this constraint by including youth of all ages in our analyses, we obtain similar results. We maintain this constraint because certain behaviors, such as sexual intercourse, are ambiguous “risk behavior” at the older adolescent ages.

2. Schools were stratified by region, urban/rural status, school sector type (public, private, parochial), ethnic mix, and size.
3. Some high schools spanned grades 7 through 12 and therefore served as their own "feeder" school, so the "pair" was in fact a single school. There are 134 discrete schools in the study.
4. We examined the age distribution of involvement in various risk behaviors at wave 1 to identify the age groups of boys and girls in which less than 10% of adolescents had engaged in the behavior.
5. When we relax this constraint and include youth who experience onset of the risk behavior at older ages, our results remain nearly identical. We never truncate our sample at the young ages because less than 10% of the youngest adolescents have engaged in each risk behavior.
6. To examine potential selection bias due to the exclusion of adolescents who had already engaged in the risk behavior by wave 1, we used a Heckman sample selection correction in models with all adolescents to estimate our substantive equation conditional on a selection equation of not engaging in the risk behavior by wave 1. The Heckman models produced the same results as our single equation model, probably because we eliminate very few young adolescents who had already engaged in the risk behavior by wave 1.
7. At the individual level, mental health is closely linked to risk taking behavior; at the aggregate level, collective feelings of positive well-being, or hopelessness at the other extreme, should create a climate for different evaluations of loss associated with risk for individuals in each climate. This type of school climate measure is intriguing and no study has had a good measure of it before.
8. We use same-sex grademates as the normative group for measuring collective expectations and mental health problems because adolescents primarily relate to their peers in developing their aspirations and feelings of hope or despair; but we use the entire school as the relevant context for collective supervision because the presence of parents as a supervision mechanism operates at the broader neighborhood level in which students from a school live and where parents monitor kids' social activities and time with friends.
9. Adolescents' expectations of living until age 35 are somewhat lower than the reality of their longevity. National estimates of the actual likelihood that adolescents in these ages will live to age 35 based on census and vital statistics data indicate that well over 95% of both male and female adolescents aged 13 to 18 should live to age 35. For instance, among adolescents alive at age 13 in 1993, 96.4% of males and 98.7% of females will survive to age 35 if the prevailing rates of mortality were to continue for the next 22 years. Among 18-year olds in 1993, 96.9% of males and 98.9% of females will live to age 35 (National Center for Health Statistics 1995, Table 6-2).
10. Missing values can result from the typical item nonresponse, but also from the fact that some respondents did not participate in all interview components of the complex Add Health survey design that we exploit in this analysis. For example, some adolescents in sampled schools were absent on the day of the in-school interview administration, but were sampled from the school roster and participated in the in-home interview.

These adolescents will not have in-school data, but will have in-home data. Not all adolescents in the in-home sample have parent data. A few cases had missing school codes and could not be linked to our school census variables. Because we are focusing on the onset of risk behavior and limiting our sample to the younger adolescents, we felt that it was important to maintain as many cases as possible and minimize bias from missing values in this way.

11. The interpretation of the coefficients on the school-level measures is aided by a reference to the standard deviations listed in the final column of the table. In the case of grademate expectations of graduating from college, the standard deviation is .069, indicating a rather narrow range of average expectations across the sampled schools. The "-3.218" coefficient is based on a one-unit (i.e., zero to one in this case) change in each independent variable, which, for this and several other school measures, is well beyond the sample range. In the case of the aggregate expectations measures, it makes more sense to translate the coefficient by multiplication by the sample standard deviation. Since the product of -3.218 and .069 is -.222; the bivariate regression in Table 1 indicates that a one standard deviation increase in aggregate expectations of attending college is associated with a 20% (i.e., $1 - e^{-.222}$) decrease in the relative risk of engaging in first sex.

12. The loss of significant effects is not due to multicollinearity.

13. Again, school-level expectations are not significant in the presence of other school and family context measures, and individual expectations of living to age 35 lose significance once we adjust for family structure and father's education.

14. No one variable or theoretical group of variables are responsible for eliminating the significance of our individual expectations measures found in the bivariate analysis.

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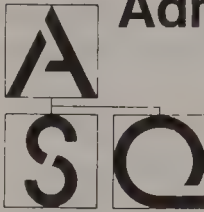
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A Theory of Self-Esteem*

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Abstract

Self-esteem has been conceptualized as an outcome, motive, and buffer, but there is no overall theory of self-esteem. In this article it is suggested that identity theory can provide a theoretical framework for the integration of the various conceptualizations of self-esteem. We suggest that self-esteem is an outcome of, and necessary ingredient in, the self-verification process that occurs within groups, maintaining both the individual and the group. Verification of role identities increases an individual's worth-based and efficacy-based self-esteem. The self-esteem built up by self-verification buffers the negative emotions that occur when self-verification is problematic, thus allowing continued interaction and continuity in structural arrangements during periods of disruption and change. Last, a desire for self-esteem, produced in part through self-verification, stabilizes the group because it motivates individuals to form and maintain relationships that verify identities.

Self-esteem continues to be one of the most commonly researched concepts in social psychology (Baumeister 1993; Mruk 1995; Wells & Marwell 1976; Wylie 1979). Generally conceptualized as a part of the self-concept, to some self-esteem is one of the most important parts of the self-concept. Indeed, for a period of time, so much attention was given to self-esteem that it seemed to be synonymous with self-concept in literature on the self (Rosenberg 1976, 1979). This focus on self-esteem has largely been due to the association of high self-esteem with a number

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of positive outcomes for the individual and for society as a whole (Baumeister 1993; Smelser 1989). Moreover, the belief is widespread that raising an individual's self-esteem (especially that of a child or adolescent) would be beneficial for both the individual and society as a whole.

Self-esteem refers most generally to an individual's overall positive evaluation of the self (Gecas 1982; Rosenberg 1990; Rosenberg et al. 1995). It is composed of two distinct dimensions, *competence* and *worth* (Gecas 1982; Gecas & Schwalbe 1983). The competence dimension (efficacy-based self-esteem) refers to the degree to which people see themselves as capable and efficacious. The worth dimension (worth-based self-esteem) refers to the degree to which individuals feel they are persons of value.

Research on self-esteem has generally proceeded on the presumption of one of three conceptualizations, and each conceptualization has been treated almost independently of the others. First, self-esteem has been investigated as an *outcome*. Scholars taking that approach have focused on processes that produce or inhibit self-esteem (e.g., Coopersmith 1967; Harter 1993; Peterson & Rollins 1987; Rosenberg 1979). Second, self-esteem has been investigated as a *self-motive*, noting the tendency for people to behave in ways that maintain or increase positive evaluations of the self (Kaplan 1975; Tesser 1988). Finally, self-esteem has been investigated as a *buffer* for the self, providing protection from experiences that are harmful (Longmore & DeMaris 1997; Pearlin & Schooler 1978; Spencer, Josephs & Steele 1993; Thoits 1994).

While research in each of these directions is extensive (see Baumeister 1998; Gecas 1982; Mruk 1995; Wells & Marwell 1976; and Wylie 1979 for reviews), little has been done to synthesize the three research streams into an overall integrated model. The present article sets forth a theory of self-esteem that integrates the three conceptualizations within the context of structural symbolic interaction, or identity theory (Stryker 1980). Ervin and Stryker (2001) began the process by discussing the links between self-esteem, identity salience, and identity commitment (embeddedness of individuals within the social structure). The connections between the different conceptualizations of self-esteem, however, remain unclear.

The research presented here attempts to synthesize the views on self-esteem by focusing on the vital role that self-esteem plays in the process of self-verification within groups. According to identity theory, the self is composed of multiple identities that reflect the various social positions that an individual occupies in the larger social structure. Meanings in an identity reflect an individual's conception of himself or herself as an occupant of that particular position or "self-in-role" (Stryker 1980). Self-verification occurs when meanings in the social situation match or confirm meanings in an identity. Thus, when individuals enact and verify an identity, they simultaneously produce and reproduce the social structural arrangements that are the original source of those meanings. In adopting such a position in our investigation, we maintain the central focus on the individual within

the social structure that has traditionally characterized the structural symbolic interactionist position (Stryker 1980).

We suggest that the verification of an identity produces feelings of competency and worth, increasing self-esteem. When individuals are able to verify group-based identities by altering or maintaining meanings in the situation that match the meanings in their identities, self-esteem increases through such efficacious action. Verification of group-based identities is also likely to produce self-esteem, since confirmation of identities within the group signifies approval and acceptance of the self (Burke & Stets 1999).¹ Conversely, a lack of self-verification within groups is likely to leave the individual feeling inefficacious and unaccepted by the group.

It is further suggested that self-esteem works as a type of defense mechanism. When individuals are unable to verify their identities, the self-esteem produced by previous successful efforts at self-verification "buffers" or protects individuals from the distress associated with a lack of self-verification (when self-verification processes are disrupted), thereby preserving threatened structural arrangements (Burke 1991, 1996). In protecting the self against distress while the situation is "resolved" (Thoits 1994), however, self-esteem is used up or diminished. Thus, self-esteem is analogous to a "reservoir of energy." Like any other resource, self-esteem can be built up, but when used, it is lost. Here, the reservoir of self-esteem is filled up by successful self-verification and used up when the self-verification process is disrupted. Like other aspects of the self, self-esteem is highly stable but is responsive to changes in social situations. When these changes include persistent problems in self-verification, self-esteem is likely to decline even more as the energy reservoir is depleted.

Finally, it is suggested that people seek to maintain or increase their self-esteem by creating "opportunity structures" or contexts for self-verification (Swann 1983, 1990). People seek opportunities (and the groups that provide them) to verify their identities and avoid situations (and groups) where self-verification is problematic. Such efforts help individuals manage and maintain their self-esteem. In this way self-esteem can be viewed as a self-motive, organizing and providing direction for behavior. Such efforts not only serve the individual but also help account for the formation and maintenance of group relations. These ideas are investigated by focusing on the verification of a family-based identity (the spouse identity) within a sample of newlywed couples.

Identity Theory and Self-Esteem

IDENTITY VERIFICATION

An identity is a set of meanings that represent the understandings, feelings, and expectations that are applied to the self as an occupant of a social position (Burke & Tully 1977; Stets & Burke 2000). These meanings serve as standards or reference levels in an identity-control system (Burke 1991). Figure 1 portrays identity models

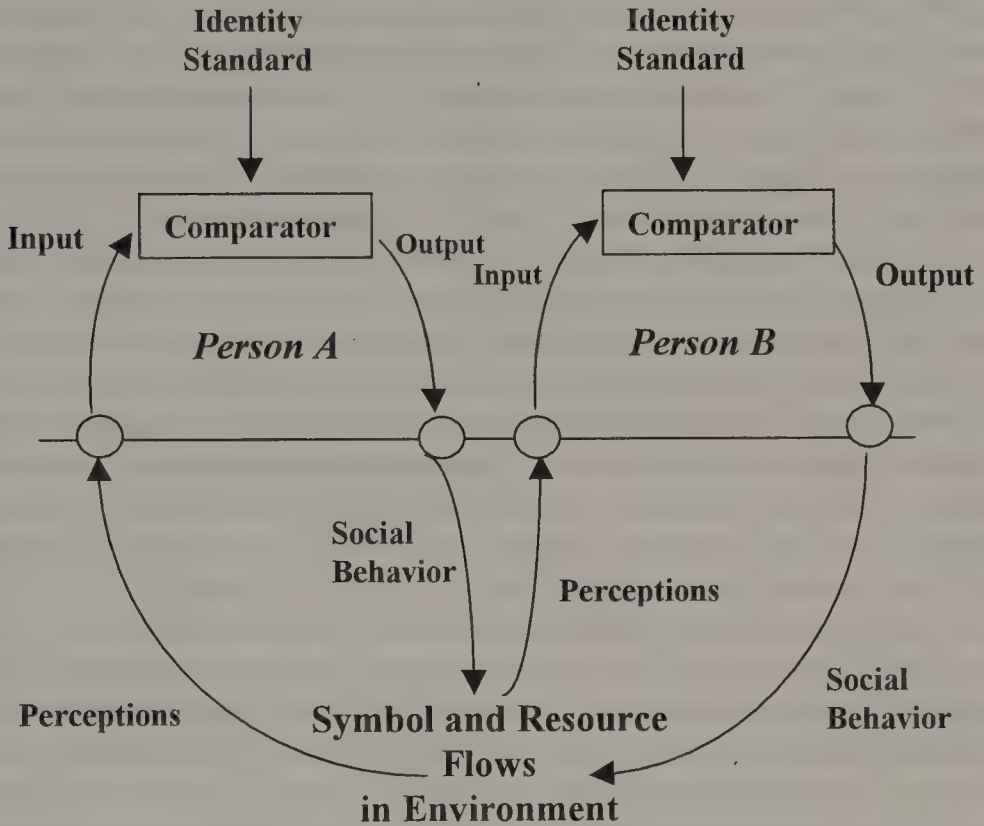
for two interacting individuals. There are four main conceptual parts to each identity-control system: the identity standard, the comparator, the output, and the input. Identity standards provide an internal reference for the individual about the meanings and expectations that are to be maintained. Inputs into the system are perceptions of self-relevant meanings in the social environment. The comparator compares these perceptual inputs with meanings contained in the standard. The output of the system is meaningful behavior that works to alter the situation so that a match between self-relevant perceptions of the situation and meanings contained in the standard is maintained. This is the self-verification process.

The normal operation of a role identity (the self-verification process) results in behavior that produces a match between self-relevant meanings in the situation and the meanings and expectations held in the identity standard. The actions taken to do this constitute the role behaviors of the person occupying the role, and these behaviors enact/create/sustain the social structure in which the role is embedded. Perceptions of the behaviors that are relevant to the identity the individual is seeking to verify thus become relevant to the verification of that identity (Burke & Reitzes 1981). For example, when a husband thinks that in his role as husband he should be doing approximately 30% of the housework, he will engage in behaviors that reflect that, and meanings in the situation that are relevant to the verification of that identity become relevant. For example, he will begin to pay attention to the amount of time he puts into housework because it is relevant to the verification of that identity. The amount of time he spends with his buddies watching sports will not, however, be directly relevant to the verification of his spouse identity.² By behaving in ways consistent with his husband standard in an effort to verify those meanings, he both produces and reproduces structural arrangements that leave women responsible for the majority of housework (Berk 1985; West & Zimmerman 1987).

If the husband's wife has an identity that implies that she be responsible for 70% of the housework, then their identities are complementary. If however, he thinks he should be doing 30% and she thinks she should be doing half, then their identities are not complementary. He will be thinking that he should be doing less and that his wife should be doing more (compared to what his wife thinks he should be doing), and his wife will be thinking that she should be doing less and that he should be doing more (compared to what her husband thinks she should be doing).

The above example illustrates the idea that when the identity is relevant to a role that stands in relation to other roles in a group, self-verification within a group is not just a function of one's own activity but of one's activity in relation to others' activity; that is, the behavior of others can inform us about who and what we are.³ Thus, in a two-person relationship, the identity of each is verified in relation to the activities of the other (Burke & Stets 1999). This idea can also be seen in Figure 1. The behavior of one person (output of the control system) affects the situation and

FIGURE 1: Identity Model for Two Interacting Individuals



thus also affects perceptions (inputs of the control system) for both persons. Roles are interdependent and complementary, and the identity standards that evolve over time between individuals must reflect that complementarity for conflict to be minimized (Riley & Burke 1995). If the identity standards of interdependent interaction partners are not complementary, then self-verification is not possible for either role partner. In addition, from the point of view of the group the mutual verification of the interdependent role identities in the group results not only in consequences for the individuals *as individuals*, but also in the stable patterns of interaction that define the structure of the group (Burke & Stets 1999). In the situation above where the husband's and wife's identities are not complementary then, the husband and the wife are both unable to verify their identities, and this will have consequences for both of them as individuals and for their relationship.

When disturbances occur in the identity-verification process (that is, when identities are not verified), distress results in the form of negative emotional responses (such as anxiety, depression, or anger), which motivate the person to reduce the disturbance and bring perceptions back into alignment with the identity standard (Burke 1991, 1996).⁴ These negative emotions can be avoided by quickly acting to remove or counteract the disturbance. For the most part, this process is ongoing and automatic as the individual responds to subtle changes in the situation.

For example, two friends, Jennifer and Jolene, are having a conversation. Jennifer thinks that as a friend she is a good listener. While conversing with Jolene, Jennifer may get the impression that Jolene doesn't seem to think that she has Jennifer's full attention. Jennifer is likely to make small, unconscious adjustments in her behavior. She may begin to do such things as nod her head a little more or shift her body closer to Jolene to indicate that she is actively engaged in the conversation. When disturbances are large, such as might exist if Jolene were to come out and directly tell Jennifer that she is being a terrible listener, Jennifer will make larger adjustments, and she is likely to experience strong negative emotions (such as guilt). Her drastic adjustments to her behavior might include stopping whatever she is doing so that she can sit down and directly concentrate on what Jolene is saying in order to bring perceptions in the social situation back into line with her identity standards. When the disturbances are large, unanticipated, or difficult to correct, stronger negative emotions come into play and people work to reduce them by discovering new actions or negotiating with others in an attempt to bring things back to normal, making the situational meanings match those in the identity standard (Burke 1991, 1996; see also Thoits 1994).

This is the general process of self-verification. In the next section, we integrate these processes with research on self-esteem, suggesting how each of the three conceptualizations of self-esteem (outcome, buffer, and motive) is tied to the self-verification process. In brief, we suggest that processes of self-verification produce self-esteem and that the self-esteem produced sustains the individual and social groups. When persistent problems arise, self-esteem sustains the process of self-verification and maintains the social structure that is reflected in role identities and reproduced through role activity.

SELF-ESTEEM AS AN OUTCOME OF IDENTITY VERIFICATION

As discussed, the basic motivation or "goal" in the identity model is to match perceived meanings in the situation with the internal meanings of the identity standard, implying an important relationship between goals and achievements. Others have similarly focused on the importance of the relationship between goals and achievements. For example, James ([1890] 1950) suggests that self-esteem is the ratio of "successes" to "pretensions" implying a relationship between what individuals accomplish and their goals. This pairing is similar to the pairing of self-relevant perceptions ("successes") and the standard or goal ("pretensions") in identity theory. Put simply, identity theory focuses on the degree to which individuals are able to achieve a match between an identity goal or "ideal" (the identity standard) and perceptions of the environment or the "actual" performance of the self, much like James's focus on the degree to which successes match pretensions. Therefore, self-esteem can be thought of as a direct outcome of successful self-verification.

Perceptions of what is “accomplished” or the “actual” are perceptions that arise from three distinct processes related to role performance within groups: reflected appraisals, social comparisons, and self-attributions (Rosenberg 1990). The first two processes are more strongly related to worth-based self-esteem than efficacy-based self-esteem (Gecas 1982). When individuals receive self-verifying feedback within the group (through reflected appraisals and social comparisons), feelings that one is accepted and valued by others within the group are reinforced, increasing worth-based self-esteem (Brown & Lohr 1987; Burke & Stets 1999; Ellison 1993). Indeed, it has been suggested that worth-based self-esteem is most at risk when an individual is faced with possible exclusion from social groups (Leary & Downs 1995). In contrast, efficacy-based self-esteem is more likely to result from self-attributions. When individuals reflect on their behavior and observe that they have been successful at maintaining a match between situational meanings and identity standards, efficacy-based self-esteem results from such “successful” behavior (Bandura 1977, 1982; Burke & Stets 1999; Franks & Marolla 1976; Gecas & Schwalbe 1983).

For example, if a worker considers that part of her identity as a worker is to strive to maintain low levels of absence from work, she will make sure that she misses as little of work as possible. She may accomplish this by such behaviors as setting an alarm to make sure she gets up on time, taking proper care of her car so that it is a reliable source of transportation to work, and going in on days that she is under the weather. When these behaviors enable her to maintain high levels of attendance at work, she is likely to feel that she can control the situation around her such that she is able to miss as few of days of work as possible, producing efficacy-based self-esteem. However, if she is unable to regularly attend work because of oversleeping or car troubles, she is likely to feel frustrated that she is unable to control the events around her, decreasing her efficacy-based self-esteem. Furthermore, if she receives feedback from a superior that acknowledges her high level of attendance at work, she is likely to feel that that her behaviors are valued at work, thereby increasing her worth-based self-esteem. If the superior thinks that her attendance is inadequate, on the other hand, she is likely to feel rejected and unappreciated, reducing her worth-based self-esteem. In this way, self-esteem is gained and lost through self-verification processes.

The above processes are related to role performance within a group and suggest that both role performance and group membership are simultaneously relevant and important. For this reason, the verification of role identities within a group should produce both worth-based and efficacy-based self-esteem. Thus, we hypothesize that

Hypothesis 1a: The greater the self-verification for an individual in a group or relationship, the higher that individual's efficacy-based self-esteem.

Hypothesis 1b: The greater the self-verification for an individual in a group or relationship, the higher that individual's worth-based self-esteem.⁵

SELF-ESTEEM AS A BUFFER

While self-verification increases feelings of competency and worth, disruption of the self-verification process has been shown to have negative emotional consequences. Distress in the form of depression and anxiety can result from a disruption in the self-verification process (Burke 1991, 1996; Higgins 1989). Other negative emotions such as jealousy (Ellestad & Stets 1998) and anger (Bartels 1997) have also been identified as resulting from disruption of the self-verification process. Individuals are likely to experience these negative emotions when perceptions of the environment and meanings contained in identity standards do not match, in other words, when the self-verification process is disrupted.

When disturbances to self-verification are large, or more persistent, people may extricate themselves from the situation or shed the identity in order to avoid the negative feelings that arise from persistent discrepancies between situational meanings and identity standards. In the interest of maintaining the social structure and interpersonal relationships, however, this possibility must be minimized. Therefore, people must have resources that can support them through these periods ensuring that negative emotions do not become too overwhelming. Self-esteem seems to be one such resource that functions to maintain individuals and social relationships.⁶

Exactly how self-esteem operates as a buffer is less clear in the literature. Some have suggested that self-esteem works to maintain positive self-views by processing feedback in a self-serving way (Baumeister 1998): individuals with high self-esteem are more likely than those with low self-esteem to perceive feedback as consistent with their positive self-views, to work to discredit the source of the feedback, and to access other important aspects of the self to counteract negative feedback (Blaine & Crocker 1993; Spencer, Josephs & Steele 1993; Steele 1988). Others argue that those with high self-esteem have a more stable sense of self and are more stable emotionally, both qualities that provide them an "emotional anchor" (Baumeister 1998; Campbell 1990; Campbell, Chew & Scratchley 1991). People with high self-esteem appear to have more "cognitive resources" at their disposal, enabling them to deal more effectively with unsatisfactory circumstances (Baumgardner, Kaufman & Levy 1989; Spencer, Josephs & Steele 1993; Steele 1988). Thus, self-esteem has been found to protect the self from "stressors" such as experiences and information that might otherwise prove "harmful" to the self (Longmore & DeMaris 1997; Spencer, Josephs & Steele 1993), distress (Cohen 1959; Coopersmith 1967; Rosenberg 1979), and especially depression (Burke 1991, 1996; Mirowsky & Ross 1989; Pearlin & Lieberman 1979; Pearlin et al. 1981).

If we think about self-esteem as a personal resource that provides individuals with a type of "energy" to support them during stressful times, then as a resource, self-esteem becomes something that can be both built up and depleted. A useful way to think of self-esteem then is to think of it as analogous to an "energy reservoir" that is filled up by successful self-verification and used to sustain that process when

it is disrupted. It provides “short-term” credits (McCall & Simmons 1978) that maintain the individual when self-verification is not possible. Swann (1983) points out that *some* process acts to sustain individuals as they seek to modify the environment so that feedback verifies the self — we suggest that self-esteem serves such a function. When individuals encounter stressors, namely situations in which self-verification is problematic, self-esteem sustains individuals while they work to alter situational meanings in an effort to restore the match between situational meanings and identity standards (Burke 1991, 1996). For example, if an individual has a student identity that implies getting good grades and he or she fails an exam, high self-esteem helps to buffer the depression, anger, or anxiety that he or she might feel as a result of not being able to verify that identity. Over time, the student with high self-esteem will work to alter meanings in the situation by studying harder so that a better grade is earned on the next exam, thereby bringing meanings in the social situation back to reflect the meanings in the student identity.

When self-verification becomes problematic and an individual would normally experience distress, self-esteem should provide a buffer against the negative emotions associated with disruption in self-verification processes. Self-esteem protects the individual from potentially debilitating emotions as they work to reestablish and maintain a match between standards and perceptions. Self-esteem can buffer the individual from such negative effects both directly and indirectly. Not only should self-esteem be associated with higher levels of well-being (direct buffering effect), but self-esteem should also *moderate* the effects of a lack of self-verification (indirect buffering effect). Therefore, we also hypothesize the following:

Hypothesis 2: The less the self-verification, the greater the distress.

Hypothesis 3: The higher an individual's self-esteem, the less the distress.

Hypothesis 4: The higher an individual's self-esteem, the less impact a lack of self-verification will have on levels of distress.

Hypothesis 4 reflects the expectation that self-esteem moderates the effect of problems in self-verification on distress that is specified in hypothesis 2.

Further, if self-esteem is viewed as analogous to a reservoir of energy, then persistent problems in identity verification over time should eventually begin to deplete self-esteem, reducing its overall level as it is used up. Further failure for the student who is unable to perform to her identity standards will have an increasingly greater impact on her self-esteem over time, and she is likely to become more and more frustrated. Persistent effects of a lack of verification will be over and above any effect of the current level of self-verification. Thus, we also hypothesize that

Hypothesis 5: The more persistent the lack of self-verification, the greater the loss in self-esteem.

SELF-ESTEEM AS A MOTIVE

While self-esteem may be viewed as both an outcome and a resource when the self-verification process fails, it has also been conceptualized as a goal in and of itself. This line of research views self-esteem as a self-motive. Self-motives provide both a standard and a direction for behavior. Self-esteem as a self-motive thus suggests that individuals attempt to maintain or enhance their self-esteem to some desired level (e.g., Kaplan 1975; Rosenberg 1979; Tesser 1988). Research from this perspective suggests that people are motivated to maintain or enhance current levels of self-esteem.

The maintenance or enhancement of self-esteem may be accomplished in several ways. Individuals may directly act in ways that increase their self-esteem when it has been lowered, they may redefine the situation to reflect more positively upon them, or they may work to create an impression of themselves that is more positive, both in terms of worth and efficaciousness (see Rosenberg 1990). For example, research finds that individuals account for negative situations by attributing the cause to external factors (e.g., Snow & Anderson 1992), selectively compare themselves to those worse off (e.g., Wood & Taylor 1991), and by interacting only with those who support a positive conception of them (e.g., Epstein & Morling 1995).

It is difficult to separate the effects of enhancement and self-verification, because for positively evaluated identities they are confounded (Morling & Epstein 1997; Swann et al. 1987), and most identities that individuals hold are positively evaluated. It is only when individuals have low self-esteem that the two motivations are at cross-purposes. Verification would seek to maintain the low self-esteem; enhancement would seek to raise self-esteem.⁷ It becomes more complicated with our suggestion that one of the consequences of self-verification is the enhancement of self-esteem. In this case, seeking the goal of self-verification also yields the outcome of self-esteem. Individuals gain self-esteem not only through enhancement, but also through self-verification.

It is possible that one also can seek to enhance self-esteem by seeking out and creating "opportunity structures" or social relationships with individuals who verify or confirm a person's identity (Swann 1990). If people are motivated to develop and maintain relationships to maintain self-verification processes as well as self-esteem processes, it follows that when such processes are problematic, people will be motivated to leave such relationships. Husbands and wives whose identities are not verified within the marital relationship are likely to feel unloved and rejected by their spouse and may come to believe that they are unable to alter the situation so that they are accepted for who they are. In such a situation, husbands and wives may make the difficult choice to leave their spouses in an effort to find a relationship in which they are loved and accepted; in other words, where they are able to verify their identities (Swann, De La Ronde & Hixon 1994). An inability to

verify identities and enhance self-esteem should produce instability in social relationships.

While we do not have information about the levels of self-esteem and self-verification for our sample of newlywed couples before their marriage, we do have some information about the stability of the relationship (separation and divorce) in the first years of their marriage. We suspect, given the evidence, that both self-esteem and self-verification motivations are simultaneously present, and we are thus led to hypothesize that

Hypothesis 6: The less an individual receives self-verification within a relationship, the more unstable the relationship.

Hypothesis 7: The lower an individual's self-esteem within a relationship, the more unstable the relationship.

Methods

SAMPLE

We examine our hypotheses with three waves of data from a longitudinal study investigating marital dynamics in the first two years of marriage (Tallman, Burke & Gecas 1998). Each data-collection period included a ninety-minute face-to-face interview, a fifteen-minute videotaping of a conversation focused on solving an area of disagreement, and four consecutive one-week daily diaries kept by each respondent. The present analyses are based on information gathered during the face-to-face interview at each data-collection period.

The sample was drawn from marriage registration records in 1991 and 1992 in two midsize communities in Washington State. Of the 1,295 couples registered to marry, 574 met the criteria for involvement (both were over the age of 18, were marrying for the first time, and had no children). These couples were contacted and asked to participate; 286 completed all data-collection processes in the first period. There was a 15% attrition rate from the first data collection period to the second period and an additional 4.2% attrition rate from the second to the third period of data collection. Couples who dropped out of the study after the first or second round were more likely to be young ($p < .05$), less educated ($p < .05$), and of a lower socioeconomic status ($p < .05$).⁸

MEASURES

Worth-based and efficacy-based self-esteem were measured by constructing new scales using established items from the Gecas and Schwalbe Self-Esteem Scale (Gecas & Schwalbe 1983), Rosenberg's Self-Esteem Scale (Rosenberg 1979), and Pearlin's

Mastery Scale (Pearlin et al. 1981). The Rosenberg scale does not distinguish between the two dimensions of self-esteem and includes items relevant to each. The Gecas and Schwalbe scale items are designed to tap both dimensions, and the Pearlin scale measures primarily efficacy-based self-esteem. Items were first selected from these scales on the basis of their face validity as measuring either self-worth or self-efficacy and placed into two separate scales. Separate exploratory factor analyses of each of the scales (efficacy and worth) confirmed their unidimensionality and the lowest-loading items were dropped.⁹ The results are shown in Table 1. Self-worth is measured with seven items and has an omega reliability (pooled over the three years) of .88. Self-efficacy is measured with nine items and has an omega reliability of .85 (pooled over the three years). Items were directionally aligned, standardized (since items from different sources varied in the number of response categories), and summed to create the scale scores. A high score on each scale indicates a high level of self-esteem.

Three of the most common indicators of distress, or "subjective well-being," were used in our analyses (Diener et al. 1999). *Depression* was measured using twelve items from the CES-D (Radloff 1977). Items asked respondents questions such as how many days during the last week they had experiences such as "feel lonely," "sleep restlessly," and "feel you could not get going." Response categories range from 0 ("not at all") to 7 ("seven days"). The items form a single factor with an omega reliability of .95 (pooled over the three years). Items were aligned and summed. Possible scores range from 0 to 84. A high score indicates a high level of depression.

Anxiety was measured using nine items from the SCL-90 (Derogatis et al. 1971). Respondents were asked, for example, how many days during the week they had "felt keyed up or excited," "felt hands trembling," and "felt nervous or had an upset stomach." Response categories range from 0 ("not at all") to 7 ("seven days"). Items were aligned and summed. The omega reliability for the anxiety measure is .89 (pooled across the three years). Possible scores range from 0 to 56 and a high score indicates high anxiety.

Hostility was measured using a five-item subscale of the SCL-90 (Derogatis et al. 1971). Respondents were asked, for example, how many day during the last week they "got angry over things that weren't really too important," "had temper outbursts," or "wanted to hurt or smash something." Response categories range from 0 ("not at all") to 7 ("seven days"). Items were aligned and summed. The omega reliability for the scale is .83 (pooled over the three years). Possible scores range from 0 to 35 with a high score indicating high hostility.

Separation/divorce is used as an indicator of relationship stability. It was measured using a dummy variable with 0 indicating that the couple was still together ($N = 199$) at t_3 and 1 indicating that the couple was divorced or separated at t_3 ($N = 32$).

Self-verification is measured following procedures used by Swann, De La Ronde, and Hixon (1994) and Swann, Hixon, and De La Ronde (1992), who examined the extent to which an individual's view of the spouse was congruent with the

TABLE 1a: Self-Worth Scale

Items	Loadings
I feel I am a person of worth, at least on an equal basis with others.	.68
I feel that I have a number of good qualities.	.67
I feel I do not have much to be proud of.	-.47
I take a positive attitude toward myself.	.76
On the whole, I am satisfied with myself.	.73
I wish I could have more respect for myself.	-.55
At times, I think I am no good at all.	-.59
Reliability (Ω)	.88

TABLE 1b: Self-Efficacy Scale

Items	Loadings
There is really no way I can solve some of the problems I have.	-.53
Sometimes I feel that I'm being pushed around in life.	-.67
I have little control over the things that happen to me.	-.62
I often feel helpless in dealing with the problems of life.	-.66
There is little I can do to change many of the important things in my life.	-.51
All in all, I am inclined to feel that I am a failure.	-.48
I am able to do things as well as most other people.	.44
I certainly feel useless at times.	-.56
Confident vs. lack confidence	-.44
Reliability (Ω)	.85

spouse's self-views on attributes relevant to their self-concept. In this research, we focus on the spousal role identity and compare the individual's own meanings and expectations in their spousal role identity with the views of them held by their partner. Self-verification exists when self-views are confirmed by the views that the spouse has for the individual. Strictly, we would want to measure the individual's *perceptions* of the spouse's expectations for him or her, but we do not possess this measure; thus we use the spouse's actual expectations as a proxy for the perceptions.

Respondents rated eleven spousal role activities. These were rated both in terms of the degree to which they felt they themselves should engage in the activity (own identity standard) and the degree to which they felt that their spouse should engage in that activity. Examples of the activities include "being responsible for maintaining contact with parents and in-laws or other members of the family," "being responsible for taking care of bills and accounts," and "being responsible for yard work." Response categories ranged across a 5-point scale from doing all the activity in the relationship (coded 4) to doing none of the activity (coded 0). While most of the items dealt with household activities, and the spousal role in all its complexity clearly includes more than this, the meanings controlled by these activities are,

clearly includes more than this, the meanings controlled by these activities are, nevertheless, important aspects of the spousal role identity. However, to the extent that the identity is not fully measured with this scale, there will be measurement error and tests of hypotheses will be weakened.

The degree of agreement is assessed by calculating the average absolute difference between one's self-description scores and the perception of oneself held by the spouse. The score could range from 0, indicating perfect agreement, to 4 indicating maximum disagreement. The scale was based on the mean of the eleven differences. The final score was reversed and thus has a possible range of 0 (maximum discrepancy/lack of verification) to 4 (perfect agreement/verification). The actual self-verification scale scores ranged from 2.30 to 4. The omega reliability for the spousal identity scale is .80 (pooled across the three years).

Persistence in a lack of self-verification was measured using a dummy variable representing a greater-than-average amount of discrepancy (or lack of self-verification) over a period of time. In this sample, the average level of self-verification was 3.63. Thus, at t_2 , an individual was assigned a value of 1 on the persistence variable if the amount of self-verification both at t_1 and t_2 was less than average ($N = 83$) and a 0 otherwise ($N = 312$). Similarly, at t_3 , an individual was assigned a value of 1 if the amount of absolute self-verification was less than average at t_1 , t_2 , and at t_3 ($N = 52$) and a 0 otherwise ($N = 343$). There is no persistence measure at t_1 since there was no temporal persistence at the beginning of the marriage.

Sex is coded 0 for females and 1 for males.

ANALYSES

Our analyses are divided into two parts. First, to investigate the effects of self-verification on self-esteem and distress as well as the buffering effects of self-esteem, we use cross-sectional time-series analysis procedures (Baltagi 1995; Greene 1990). These provide estimates of effects based on a pooling of cross-sectional relationships in the data and on correlations in changes of the variables over time. Second, in order to investigate the effects of identity verification on relationship stability, we use logistic regression. In these analyses, because of the nonindependence between husbands and wives, their errors are allowed to correlate.

The following control variables were included in the preliminary analyses: expected inequality in household labor, education, occupational status, income, race, sex, and presence of a child. Only sex exerted a significant and consistent effect across models. In the interest of parsimony and to avoid problems of multicollinearity, the only control variable included in the analyses presented here is sex. In addition, preliminary analyses showed the variance-covariance matrices for males and females to be not significantly different. This is sufficient to conclude that whatever model underlies the data, it is the same for both males and females.

Results

Table 2 presents means, standard deviations, and correlations for all the measures. In this table we see that mean levels of depression (11.28), anxiety (6.27), and hostility (4.71) are fairly low over the two-year period. Also, the mean value of self-verification is high (3.64 on a 4-point scale) over the three points in time. Thus, on average, the individuals in this sample experience a fair amount of self-verification and self-esteem and relatively low amounts of distress over these sample points.

Table 3 presents standardized coefficients of the cross-sectional time-series analyses that investigate the effects of self-verification processes on self-esteem. These are comparable to standardized regression coefficients. The results in Table 3 confirm our first hypothesis that self-verification increases self-esteem; this is true for both worth-based ($b = .09$) and efficacy-based ($b = .09$) self-esteem. Thus, self-verification does result in higher self-esteem; conversely, a lack of self-verification decreases self-esteem.

Hypothesis 5 suggested that a persistent lack of self-verification would have an increasing negative effect on self-esteem over time. This hypothesis is also supported by the results in Table 3 for both worth-based and efficacy-based self-esteem. Compared to those who do not experience a persistent lack of self-verification, individuals who experience persistent discrepancy (or lack of self-verification) over time have lower efficacy-based ($b = -.18$ at t_2 and $b = -.35$ at t_3) and worth-based self-esteem ($b = -.15$ at t_2 and $b = -.29$ at t_3) above and beyond immediate effects of a lack of verification. These results illustrate the increasing effects of a lack of self-verification over time. Thus, not only does a lack of self-verification reduce self-esteem, a *persistent* lack of self-verification depletes self-esteem even further. These findings are consistent with the conceptualization of self-esteem as an energy reservoir that is depleted by persistent problems in self-verification.

As shown, a lack of self-verification lowers self-esteem, but hypothesis 2 suggests that a lack of self-verification also produces distress. This hypothesis is supported by the results in Table 4, which show that the less an individual's self is verified, the more an individual is depressed ($b = -.07$), anxious ($b = -.07$), and hostile ($b = -.07$). However, hypotheses 3 and 4 suggested that self-esteem buffers the distress in two ways. First, self-esteem buffers distress directly: the higher individuals' self-esteem, the lower their distress (hypothesis 3). Second, self-esteem is hypothesized to moderate the effects of a lack of self-verification. Individuals with high self-esteem should experience less distress from a lack of self-verification than those with lower esteem (hypothesis 4). If this is the case, the interaction term for self-verification \times self-esteem should be significant and positive.

The results in Table 4 provide some support for both these hypotheses. In support of hypothesis 3, those with higher worth-based self-esteem are less depressed ($b = -.10$) and less hostile ($b = -.10$). Those with higher efficacy-based self-esteem are less depressed ($b = -.30$), less anxious ($b = -.19$), and less hostile ($b = -.16$).

TABLE 2: Means, Standard Deviations and Correlations among Measures

Measure	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)Worth t ₁	-.01	.62	1.00								
(2)Worth t ₂	-.02	.63	.63*	1.00							
(3)Worth t ₃	.03	.61	.54*	.57*	1.00						
(4)Efficacy t ₁	-.02	.54	.70*	.59*	.63*	1.00					
(5)Efficacy t ₂	-.01	.59	.54*	.70*	.58*	.71*	1.00				
(6)Efficacy t ₃	.05	.57	.49*	.53*	.74*	.68*	.70*	1.00			
(7)Depression t ₁	11.54	8.60	-.31*	-.38*	-.30*	-.40*	-.43*	-.41*	1.00		
(8)Depression t ₂	11.27	9.55	-.18*	-.33*	-.24*	-.22*	-.39*	-.29*	.47*	1.00	
(9)Depression t ₃	11.03	11.43	-.18*	-.22*	-.27*	-.22*	-.28*	-.35*	.44*	.35*	1.00
(10)Anxiety t ₁	6.91	7.06	-.18*	-.25*	-.19*	-.26*	-.28*	-.25*	.63*	.38*	.43*
(11)Anxiety t ₂	6.12	6.04	-.20*	-.26*	-.17*	-.21*	-.31*	-.25*	.42*	.66*	.33*
(12)Anxiety t ₃	5.78	6.50	-.14*	-.19*	-.16*	-.16*	-.25*	-.23*	.39*	.33*	.70*
(13)Hostility t ₁	5.41	5.35	-.22*	-.25*	-.23*	-.27*	-.29*	-.29*	.61*	.29*	.38*
(14)Hostility t ₂	4.44	4.79	-.19*	-.24*	-.20*	-.15*	-.26*	-.22*	.36*	.59*	.33*
(15)Hostility t ₃	4.29	4.70	-.14*	-.17*	-.22*	-.18*	-.28*	-.29*	.33*	.30*	.64*
(16)Self-verification t ₁	3.64	.19	.16*	.17*	.09*	.20*	.15*	.14*	-.21*	-.12*	-.08*
(17)Self-verification t ₂	3.63	.20	.18*	.13*	.12*	.17*	.18*	.20*	-.20*	-.17*	-.14*
(18)Self-verification t ₃	3.63	.21	.17*	.11*	.15*	.15*	.14*	.21*	-.13*	-.11*	-.15*
(19)Persis. discrep. t ₂	.21	.41	.11*	.08	.10*	.11*	.08	.10*	-.18*	-.07	-.01
(20)Persis. discrep. t ₃	.13	.34	.11*	.09*	.14*	.09*	.09*	.16*	-.16*	-.03	-.00

TABLE 2: Means, Standard Deviations and Correlations among Measures (Cont'd)

Measure	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) Worth t_1											
(2) Worth t_2											
(3) Worth t_3											
(4) Efficacy t_1											
(5) Efficacy t_2											
(6) Efficacy t_3											
(7) Depression t_1											
(8) Depression t_2											
(9) Depression t_3											
(10) Anxiety t_1	1.00										
(11) Anxiety t_2	.50*	1.00									
(12) Anxiety t_3	.53*	.49*	1.00								
(13) Hostility t_1	.64*	.29*	.38*	1.00							
(14) Hostility t_2	.38*	.58*	.37*	.45*	1.00						
(15) Hostility t_3	.46*	.32*	.64*	.47*	.42*	1.00					
(16) Self-verification t_1	-.18*	-.17*	-.13*	-.26*	-.14*	-.09	1.00				
(17) Self-verification t_2	-.10*	-.19*	-.09*	-.18*	-.14*	-.09	.41*	1.00			
(18) Self-verification t_3	-.13*	-.18*	-.10*	-.19*	-.12*	-.18*	.29*	.48*	1.00		
(19) Persis. discrep. t_2	-.15*	-.14*	-.06	-.20*	-.08	-.05	.60*	.55*	-.30*	1.00	
(20) Persis. discrep. t_3	-.10*	-.12*	-.02	-.21*	-.04	-.08	.44*	.40*	.45*	.77*	1.00
(N = 401)											

* $p < .05$

TABLE 3: Standardized Regression Coefficients for Cross-sectional Time-Series Analysis of Self-Efficacy and Self-Worth

	Outcomes	
	Self-Efficacy	Self-Worth
Self-verification	.09*	.09*
Persistent discrepancy	-.18* / -.35* ^a	-.15* / -.29* ^a
Sex	—	—
N (individuals)	470	470

^a Effect at t_2 /effect at t_3

* $p \leq .05$ — $p > .05$

However, only efficacy-based self-esteem appears to buffer the effect of problematic (low) self-verification on depression ($b = .09$), anxiety ($b = .12$), and hostility ($b = .09$).

Finally, it was suggested that individuals are motivated to maintain or enhance self-esteem partially through the establishment and maintenance of opportunity structures where self-meanings are verified and esteem is enhanced. Thus, individuals should be less likely to leave relationships that verify identities as hypothesis 6 suggests and more likely to leave relationships when their self-esteem is not maintained through self-verification as suggested in hypothesis 7. Results of a logistic regression of separation/divorce on self-verification, the esteem components, and emotional reactions are presented in Table 5. The results support both these hypotheses. The more identities are verified, the less likely couples are to divorce or separate (the odds drop 40% for every standard deviation increase in self-verification), while those with lower efficacy-based self-esteem (though not worth-based esteem) are more likely to divorce or separate (again, the odds drop about 40% for every standard deviation increase in efficacy) independently of their self-verification status. The fact that self-esteem and self-verification are both significantly related to the stability of the relationship suggests that both are important to the maintenance of relationships.

Discussion

In this article, an overall theory of self-esteem has been developed by bringing together various conceptualizations of self-esteem into the framework of identity theory, as well as extending identity theory. In brief, it is suggested, and the findings support, the idea that self-esteem can be understood as a central component of basic identity processes. The verification of identities in social groups not only accomplishes the role behaviors that maintain social arrangements but also builds up self-esteem. Individuals who verify their identities see themselves as effective

TABLE 4: Standardized Regression Coefficients for Cross-sectional Time-Series Analysis of Negative Self-Feelings

	Outcomes Using Worth and Efficacy		
	Depression	Anxiety	Hostility
Self-verification	-.07*	-.07*	-.07*
Persistent discrepancy	—	—	—
Self-worth	-.10*	—	-.10*
SV x worth	—	—	—
Self-efficacy	-.30*	-.19*	-.16*
SV x efficacy	.09*	.12*	.09*
Sex	-.12*	—	—
N (individuals)	470	470	470

* $p \leq .05$ — $p > .05$

and competent (high efficacy-based self-esteem). Self-verification accomplished jointly and mutually with others in a relationship or group was shown also to increase worth-based self-esteem when others confirm the individual's identity through their own role performances.

In addition, while researchers have shown that self-esteem serves as a buffer against the negative feelings that arise from disruptive or threatening experiences, we would suggest that these disruptive or threatening experiences describe problems in self-verification. Self-esteem operates as a type of personal resource (particularly efficacy-based) that protects individuals from these experiences, allowing individuals to remain engaged in the situation while they either find new ways of verifying their identities or identity standards adjust to new levels in the negotiation process. But, because self-esteem is used up in the process, there are limits to this buffering effect. When individuals are persistently unable to verify their identities, the decline of self-esteem is even greater, leaving individuals more and more vulnerable to the negative effects of a lack of self-verification (including the loss of self-esteem). Therefore, when social relationships do not contribute to self-verification, individuals may leave such relationships and seek identity verification, and the resulting self-esteem, elsewhere. As such, a desire for self-esteem motivates individuals to seek both verifying and enhancing social relationships.

While we have posited here that self-verification produces self-esteem, it is possible that self-esteem is also associated with higher levels of self-verification. Indeed, to some degree, the conceptualization of self-esteem as a buffer or reservoir of energy that individuals use when self-verification attempts fail reflects this process. Basically, the more self-esteem an individual has "in reserve," the more resources the individual will have to try various things to alter perceptions such that they match identity standards. Thus, while we have not directly assessed how

TABLE 5: Odds Ratios from Logistic Regression for the Effects of Discrepancy, Esteem, and Depression on Likelihood of Separation or Divorce

	Separated or Divorced
Self-verification	.62*
Self-worth	—
Self-efficacy	.61*
SV x worth	—
SV x efficacy	—
Depression	—
Anxiety	—
Hostility	—
Chi-square / df	44.89 / 8
N	460

Note: Data on individuals, using cluster option to account for lack of independence between husbands and wives.

* $p \leq .05$ — $p > .05$

self-esteem might in turn affect self-verification, a reciprocal relationship between self-esteem and self-verification is certainly implicit in our model.

It should be noted that the discussion has been limited to nonstigmatized identities and thus does not address whether similar effects would be found when investigating negative or stigmatized identities. The perspective adopted here would suggest that to the extent that an identity (negative or positive) is necessary to one's membership within a particular group, verification of identities related to that group should have positive effects on the individual.¹⁰ For example, the alcoholic who is stigmatized and negatively evaluated by his family is welcomed with open arms by drinking buddies at the local watering hole. The identity of alcoholic is central to his or her inclusion with the group at the bar, but not to his or her inclusion within his or her family. Thus, self-verification of a socially stigmatized identity may produce self-esteem when the identity is central to inclusion within the group and the group is the source of the feedback.

It should also be noted that while many of the coefficients relating to self-esteem and to levels of distress may appear to be small, there are two things to keep in mind about them. First, the above results are for the analysis of a single identity only (and limited aspects of that identity), albeit an important identity.¹¹ Our measures of self-esteem and our measures of distress are global, not specific to the particular identity investigated. It would be surprising to find that verification of one identity would have substantial effects on outcomes that are measured at a global level (see Hoelter 1986 for a discussion on the relationship between role-specific and global measures of self-esteem). Second, the self-concept is very stable over time, as research has shown (Burke & Cast 1997; see Demo 1992 for a review). Small effects accumulate over time, however, and therefore the small effects we

observe here may actually be quite dramatic for the individual as they accumulate over time.

There are other factors that future research should consider as well. First, there may be real structural constraints to an individual exiting a relationship or situation in which he or she is unable to verify identity. When such constraints exist, identities are likely to decline in salience and individuals are likely to reduce their commitment to those identities (Stryker & Burke 2000). For example, workers who are unable to exert control over their work may do such things as simply do the basic minimum at their job, avoid it as much as possible with high absenteeism, or focus on other identities that they are able to verify (c.f., Steele 1988). However, when unable to effectively “escape” in this manner, individuals may even turn to alcohol and drugs in order to cope (Snow & Anderson 1992).

Second, there may be more than one identity that an individual is seeking to verify at any one point in time. Because there are several important identities within the family (parent, spouse, child, sibling, etc), these different identities may compete with each other; that is, one identity may be particularly salient or prominent for an individual and verification of that identity becomes more important. For example, given our model, one might wonder why it is that individuals stay in abusive relationships. Beyond obvious resource constraints, it may be that the individual has a spouse identity that entails a high tolerance for abusive behaviors, but it may also be that the individual is verifying another important identity. A woman may remain in an abusive relationship because her parent identity implies that she provide an environment in which her children’s needs are met and where they have interaction with their father. Staying in the relationship may enable her to verify this important identity.

Third, it has also been assumed that feedback from others is consistent. Because individuals tend to seek out relationships that verify their identities, consistency in feedback (from one individual or across a variety of sources) is likely. This may not always be the case. For example, abused women often experience inconsistent feedback from their spouses. This is evidenced by their inability to predict the behaviors of their spouses and the beating-honeymoon cycle. This is likely to create a situation in which the individual feels both the push and pull of the relationship, resulting in the individual perhaps choosing to not leave the relationship — the small amount of verifying feedback from the spouse during the honeymoon phase may be enough to entice her to stay, at least in the short-term. While recent research has begun to address both the verification of multiple identities (Burke 2001; Smith-Lovin 2001; Stryker 2000) and the importance of consistency in feedback in understanding the development and stability of self-esteem (Kernis & Waschull 1995), more research in this area is needed to provide a more complete account of the processes investigated here.

Overall, the findings presented in this article support our extension of identity theory to incorporate self-esteem. It would appear from these results that efficacy-

based self-esteem and worth-based self-esteem are equally affected by verification processes, at least for the individuals in the present study. In spite of both this and the fact that the two forms of esteem are closely related ($r = .71$), they appear to operate differently. As a direct buffer, efficacy appears to be more powerful than worth-based self-esteem, and efficacy is the only form of self-esteem that buffers the negative effects of problems in self-verification. These findings are consistent with previous research, which suggests that a sense of control (what we have referred to as efficacy-based self-esteem) moderates the effects of "stressors" on individual well-being (see, e.g., Mirowsky & Ross 1989, 1990). Thus, from the research presented here, a sense of self-worth is less critical than the feeling that one can control the things happening in understanding how and when individuals are able to cope with stressful situations. This may mean that as long as individuals feel that they are able to exert some control over the situation, they are better able to deal with stressors.

One somewhat surprising finding in the present study is that it is low *efficacy*-based rather than *worth*-based self-esteem that appears to motivate individuals to leave relationships. Because our hypothesis that worth is based upon recognition and acceptance by others, we would have expected that failure in this area would be more likely to lead one to leave unaccepting others. It is possible that the collinearity between the two forms of esteem is suppressing the effect, but it is also possible that efficacy-based self-esteem is a more central component of self-esteem than self-worth, as some have suggested (Ervin & Stryker 2001; Sangster & Burke 1993). Alternatively, efficacious behaviors that produce efficacy-based self-esteem may be central to ensuring worth-based self-esteem. That is, worth-based self-esteem may come from those relationships in which efficacy-based self-esteem is produced. An individual who is able to act efficaciously in his or her environment may be producing situations that also produce worth-based self-esteem. In such a scenario then, efficacy-based self-esteem is causally prior to worth-based self-esteem. Regardless of the explanations for these findings, they suggest that worth-based and efficacy-based self-esteem are indeed two distinct components of self-esteem and operate somewhat differently as motives and mediators of the stress process. Determining the exact nature of these differences and their implications for individual well-being and group stability is another important direction for future research.

In sum, the work presented puts forth an integration of the various views of self-esteem and provides a way of thinking about the connection between two components of the self that have been central in social psychology, namely identities and self-esteem. It is also a reminder that the very "personal" process of self-verification occurs within a social environment or, more specifically, within social groups and relationships, with consequences for the group, both in terms of the well being of its members and its stability. We have suggested that self-verification

is a central motive or organizing principle behind individual behavior, and self-esteem appears to play an important role in the entire process.

Self-esteem is not simply a product of self-verification. As we have discussed here, a desire for self-esteem may be one of the reasons individuals enter into (and conversely, exit) relationships, and the self-esteem gained through self-verification serves an important protective function for the self by directly and indirectly reducing the amount of stress individuals experience when they are unable to verify important self-meanings. As such, self-esteem may work as a type of “social lubricant” helping individuals deal with various stressors or “bumps along the road” thereby allowing them to function meaningfully and effectively from day to day in the roles and social structures within which they exist. In this way, the processes we have outlined here are fundamental to the maintenance of social structure and the individuals that operate within that structure.

Notes

1. The self is composed of multiple identities (McCall & Simmons 1978; Stryker 1980), and thus self-verification involves the verification of all relevant identities. Here, since we are focusing on only one identity, we use self-verification and identity verification interchangeably.
2. This is not to say that these behaviors in the friend identity may not affect the verification of other identities, such as the spousal identity. Certainly, behaviors associated with one identity may interfere with the verification of other identities.
3. This does not mean that other sources are not influential in the self-verification process. However, the group in which the identity is based is likely to be viewed as more important and more credible, and thus more likely to be influential. For example, one's coworkers might give feedback to the individual about his or her performance as a spouse, but feedback from one's spouse will probably be more significant.
4. We note that in the present research we limit our discussion to nonstigmatized identities. Whether stigmatized identities follow the same pattern remains an open question.
5. In later hypotheses, *self-esteem* is taken to mean both worth-based and efficacy-based self-esteem.
6. Perhaps self-esteem evolved as one of the “glues” (along with empathy and commitment) that help to keep society intact.
7. Swann et al. (1987) proposed that verification is primarily a cognitive process while enhancement is primarily an affective process. Each process thus operates under a somewhat independent system.
8. A fuller description of the data and data-collection process is available elsewhere (Tallman, Burke & Gecas 1998).
9. For the self-worth scale, the first eigenvalue was 3.01 and the next only .84. For the self-efficacy scale, the first eigenvalue was 2.75 and the next only .42.

10. The findings of some research is consistent with this idea (Kaplan 1975; Wright, Gronfein & Owens 2000).
11. We also recognize that the effects of identity disconfirmation would likely vary with the levels of salience and commitment to the identity in question (cf. Burke 1996).

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Work Units and Income Inequality: The Effect of Market Transition in Urban China*

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Abstract

This article analyzes the effect of marketization on personal income inequality in urban China as mediated by three types of work units: low-profit state firms (LPFs), high-profit state firms (HPFs), and market firm (MFs). Results based on two urban survey data sets show that while the influence of redistributive power declines, returns to human capital do not monotonically increase as a firm's proximity to the market increases. Although returns to human capital are higher in the market sector than in the state sector, the effects of education on earnings are weaker in HPFs than LPFs within the state sector. The inconsistency is attributed to the effects of bonuses that are equally distributed among employees in HPFs.

The transition from state socialist economies to market-oriented economies in Eastern Europe and China has created much debate among sociologists in recent times (Bian & Logan 1996; Cao & Nee 2000; Griffin & Zhao 1993; Lin 1995; Nee 1989, 1991, 1996; Nee & Cao 1999; Parish & Michelson 1996; Rona-Tas 1994; Szelenyi 1978, 1983; Szelenyi & Manchin 1987; Szelenyi & Kostello 1996; Walder 1990, 1996; Xie & Hannum 1996; Zhou 2000a). State socialism is characterized as an economic system integrated by redistributive mechanisms, whereas capitalism

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is a market-integrated economic system (Szelenyi 1978, 1983). Since social inequalities are always generated by the dominant mode of economic integration, the institutional transformation of state socialism has provided a unique opportunity for sociologists to examine how institutions shape the order of social stratification and how the change has influenced social inequality. This article examines the roles played by the concrete institutions of various work units in shaping income inequality in urban China during the market transition.

The Market Transition Debate

Market transition theory suggests that market-oriented reforms in state socialist countries have been increasing returns to human capital and causing the decline of the influence of redistributive power. According to Szelenyi (1978, 1983), inequalities under one system can be reduced by introducing the alternative as a counterbalancing mechanism. Thus, the penetration by market factors will undermine the socialist inequality created by redistribution. However, with the market becoming an influential, or even dominant, mechanism, it will eventually lead to inequality. Parallel to Szelenyi's theoretical argument, Nee (1989) proposed several theses about the effect of the transition to the market based on empirical evidence from rural China. He found that overall income inequality declined in China from 1977 to 1985. The income gap between urban and rural residents decreased, as did the gap between peasants and cadres within rural society. During this transition period, direct producers (ordinary workers and peasants) gained more and human capital was rewarded more, whereas political loyalty came to matter less. Meanwhile, income inequality in urban China exhibited distinctive patterns in the state and the market sectors: there were higher returns to human capital (education and work experience) in the market sector than in the state sector, while advantages enjoyed by administrators were found only in the state sector. In the market sector, Communist party membership had even become a disadvantage (Nee & Cao 1995).

Findings based on other urban data, however, are inconsistent with market transition theory (Bian & Logan 1996; Xie & Hannum 1996). First, the decline of overall income inequality cannot be conclusively attributed to the effect of marketization. Despite the equalizing trend in income distribution from 1978 to 1988, Bian and Logan found that equalization was more pronounced for base salaries than for bonuses. Since base salaries were subject to government regulation, the equalizing trend in income inequality was largely the result of government policy rather than market penetration (Bian & Logan 1996, also see Griffin & Zhao 1993). Second, claims about the effects of redistributive power and human capital are particularly controversial. On the one hand, greater increases in income for party members, workers in the state sector, and workers holding jobs with a

redistributive nature than for other workers suggest that redistributive influences were strengthened during the market-oriented reform (Bian & Logan 1996). On the other hand, returns to education were found to be negatively associated with the level of marketization (Xie & Hannum 1996). Thus, predictions about the declining significance of redistributive power and increasing returns to human capital in the market transition were largely unsupported, at least in urban China.

Some of the variations in findings among these studies can be explained by specifying the institutional settings within which marketization is embedded (Szelenyi & Kostello 1996). Since the results contradicting market transition theory are exclusively based on urban areas, whereas Nee's claims were originally grounded on evidence from rural areas, most scholars speculated that the inconsistencies were due to the differences in institutions and reform strategies between urban society and rural society. The work unit, as one of the most important institutions that characterize Chinese urban society (Walder 1986; Whyte & Parish 1984), accordingly, has been of particular interest to scholars in accounting for urban inequality. For example, Xie and Hannum (1996) speculated that the market-oriented reforms of the 1980s resulted in increasing inequalities among work units in terms of bonuses. And Bian and Logan (1996) showed that the effects of redistributive characteristics of work units on income inequality increased over the period of the market-oriented reform.

Empirical evidence regarding the effects of the work unit and its way of distributing bonuses, however, is not completely unfavorable to market transition theory. In a study of Tianjin, Walder (1990) examined the determination of base salary and bonuses separately. While base salaries were hierarchically distributed, bonuses were allocated more equally. After adding bonuses to base salaries, the effects of work experience and education on total income decreased, and the impact of work-unit ownership and bureaucratic rank on total income was strengthened. However, the advantages that party members and cadres enjoyed in base salaries disappeared in total income after equally distributed bonuses were added to base salaries. If bonuses were viewed as one way of representing the impact of reform on income inequality (Walder 1990), these findings suggested that returns to human capital (education and work experience) were reduced and that redistributive advantages (due to work-unit rank and ownership) persisted in the course of market transition. On the other hand, they provided some confirmation of Nee's hypotheses (1989) that the reform decreased the influence of redistributive power (party membership) and returned more to direct producers (ordinary workers).¹

Resolution of these conflicting interpretations, however, has been hampered by the fact that, despite general acknowledgment of the central role of work units in urban stratification, the changing impact of the specific characteristics of work units has not been directly and fully examined. Xie and Hannum (1996) speculated that the work unit played a pivotal role in reducing returns to human capital, but,

nevertheless, did not include work-unit variables in their analysis. While Walder (1990, 1992), Bian (1994), and Bian and Logan (1996) considered work units' ownership and bureaucratic rank in their analyses, work units' attributes that are key to employees' earnings were not examined. In addition, most data were only from work units in the state sector, limiting the generalizability of the findings.

A direct examination of the role of work units in income determination is necessary in order to address the original question of whether institutional changes cause changes in social stratification. While the market is viewed as a generic institutional force that reshapes the social stratification order (Nee 1989, 1991; Szelenyi 1978; Szelenyi & Kostello 1996), the work unit is a specific institution through which the market exerts its influence on urban social inequality. To explore the social consequences of market-oriented economic reform, we need to consider the effect of marketization on the work unit, i.e., how marketization has changed the work unit's influence on stratification (Guthrie 1997; Oberschall 1996; Zhou & Pei 1997).

In this article I examine economic inequality among employees in various work units during the market transition period in urban China. In a system such as China's, where a substantial portion of rewards were distributed in nonmonetary form, income may not be the best indicator of social stratification (Oberschall 1996; Walder 1992; Zhou, Tuma & Moen 1997). However, I focus on income determination for three reasons. First, this article is intended as a contribution to the market transition debate. The use of income as my dependent variable makes it possible to compare my results to previous findings, and in particular to assess the role of work units, thereby helping to reconcile the disparities summarized above. Second, in overall economic rewards nonwage welfare might be important, especially in the state sector, but because we are looking at relative advantages in income associated with different positions, and because income and nonmonetary benefits are positively correlated, income is still a valid indicator of socioeconomic status. Third, in the reform era, cash income has become a major part of economic rewards, mainly in the form of bonuses, which are more sensitive to economic change than either base income or, especially, perquisites. Thus, studying income determination can shed light on the institutional transition in China.

My work here has two interrelated purposes. By taking into account the effect of work units — following the core issue in the market transition controversy — I address the question of whether the influence of redistributive power has declined and whether returns to human capital have increased. On the other hand, I demonstrate the importance of work units in understanding the process of market transition in China and expand this arena for institutional analysis. In the following sections I first describe the work unit's key role in social stratification in state socialist China as well as the impact of marketization on the work unit. Then, I show how the work unit affects an individual's income and specifically how the work unit modifies returns to human capital in different institutional settings.

After sketching out different scenarios of income determination among work units, I assess the implications for the market transition debate. Finally, I reflect on the market transition debate as a whole, and discuss possible future directions for studying institutional transitions in current and former state socialist societies.

The Work Unit As a Social Institution in Chinese Urban Society

Prior to the economic reform, almost every urban resident in China was assigned to a workplace, whether a factory, store, school, or government office, called a work unit (*danwei*). In Chinese official statistics, the work unit is defined as an *independent* accounting unit with three characteristics: (1) administratively, it is an independent organization; (2) fiscally, it has an independent budget and produces its own accounting tables of earnings and deficits; (3) financially, it has independent accounts in banks and has legal rights to sign contracts with government or business entities (Bian 1994). In general, work units were classified into three categories based on their primary functions: (1) government or party agencies (*dangzheng jiguan*); (2) profit-making enterprises (*qiye danwei*), and (3) nonprofit institutions (*shiye danwei*). Government or party agencies represented the state and assumed the central administrative role in Chinese society, while economic enterprises and nonprofit institutions were owned in varying degree by the state and were administrated directly or indirectly by the government. Since state enterprises accounted for most work units and employed the vast majority of the labor force,² studies of work units usually focused on state-owned enterprises (Walder 1986). The term *work unit* (*danwei*) refers to all work organizations in general, but was often used to refer to state economic enterprises in particular.

Each work unit was an extension of the state organization. First, all work units were affiliated with and supervised by government at various levels ranging from township governments to the national government. Second, managers in work units were appointed and promoted by their supervisory government offices, thus, they were *de facto* government bureaucrats. Third, there existed no labor market and all employees were assigned to work units by government labor or personnel bureaus. The number of employees and the wage allocation for a work unit were rigidly regulated by the government's annual plans. Finally, activities of work units were also controlled by government offices. All decisions regarding product pricing, as well as allocation of profits, were made by supervising offices, either formally or through informal negotiation between enterprises and the government offices (Li & Wang 1992; Lu 1989; Walder 1986).

Due to the lack of autonomy, a work unit's goal was subordinate to that of the state. Work units not only worked towards their specific organizational goals but also carried out responsibilities of the state to its citizens. First, labor insurance and social security provisions were administrated through the work unit. Second,

the work unit also directly supplied a range of state goods and services which, in market economies, would be supplied through markets or a variety of institutions and government agencies. In addition, the work unit performed a variety of sociopolitical services and therefore was the locus of a worker's social and political identity (Walder 1986). In sum, the work unit was the basic cell of Chinese urban society and the crucial vehicle of social administration and social control (Li & Wang 1992; Lu 1989; Oberschall 1996; Walder 1986).

The resources that a work unit could offer to its employees were contingent upon its structural position in the socialist hierarchy. Resources at a work unit's disposal varied with its type. Government and party agencies were *de facto* redistributors under the state socialist system, and enterprises were required to submit all profits to the central planners. In addition, ownership was one of the most important factors in resource distribution. The redistributive system tended to favor state-owned work units because they were considered the base of the communist regime. State-owned work units had priority when acquiring resources from the government from which to provide housing and subsidized grain coupons to their employees. Finally, each work unit had a rank in the hierarchy, which could strengthen the work unit's ability to gain resources from the state. The higher the rank of a work unit, the more power it had in bargaining with its government supervisor (Bian 1994; Li & Wang 1992).

Remuneration provided by the work unit included salary and in-kind goods and services. After the 1956 wage reform, the salaries of employees were under rigid government control (Walder 1986). Each employee had a rank in the wage ladder based on his or her personal status, seniority, and administrative position. This so-called "one China, one payroll table" policy applied regardless of variation among work units. However, living standards and economic status in China could not be measured only in monetary terms. In an economy of scarcity, in-kind goods and services only available through the work unit were important as well. The work unit played a central role in the distribution of housing and ration coupons and the delivery of a wide range of services. Walder (1992) explored the impact of ownership and budgetary rank on social stratification at the organizational level. He argued that the extraction of revenues from work organizations varied with the budgetary resources of the governing jurisdiction and the dependence of that jurisdiction on the output of the organization. Variation in revenue extraction, in turn, created inequalities among organizations in terms of their ability to provide nonmonetary benefits to employees.

In a typical redistribution process, the state first appropriated and monopolized resources and opportunities and then allocated them to work units according to their positions in the redistributive hierarchy. In turn, work units distributed rewards on the basis of a worker's individual attributes. This mechanism gave the work unit primacy in determining the income and status attainment of its workers (Bian 1994; Lin & Bian 1991).

The Work Unit and Income Distribution during the Reform Era

The scenario depicted above had been changing since the early 1980s when urban economic reform was initiated. Urban economic reform resulted in the emergence of a new market-oriented economy. Self-employment and private economic activity had been legitimized as integral parts of socialism since 1982. Meanwhile, an open-door policy was attracting a large amount of foreign investment (Zhong 1990). In 1995, the nonstate economy accounted for 23% of industrial gross output value and 29% of national investment (State Statistical Bureau 1996).³ These firms constituted an expanding market sector outside the redistributive economy. Since the market sector was becoming a new provider of resources and life chances other than those offered by the state sector, bureaucratic coordination became less important than before. Moreover, as marketization proceeded, new firms gained economic advantages and pushed many state firms into marginal positions in market competition. The privileges that state enterprises used to enjoy in a homogeneously redistributive economy were fading away (McMillan & Naughton 1993; Naughton 1999).

Meanwhile, work units in the state sector had obtained some decision-making power from the government. The restructuring of the enterprise-government relationship was a pivotal issue on the agenda of China's economic reform. Though significant changes occurred slowly over many years, the incremental decentralization policy enabled enterprises eventually to evolve into entities with relative autonomy (McMillan & Naughton 1993; Shirk 1994). In 1985, the number of industrial products allocated by central planning was reduced from some 600 items to 310 (Bian & Logan 1996). By 1992, the prices of over 80% of commodities were determined by the market rather than by government planning (Li 1993).

Although some work units continued to take advantage of redistributive mechanisms, they had to confront market competition as well. The business performance of a state firm was contingent not only on its organizational status in the hierarchy, but also on its success in adjusting to the market. In this context, two trends were observed with respect to income distribution in reforming China (Li 1989; Zhao 1993). On the one hand, income disparities across work units were growing; on the other hand, inequalities within work units remained small and may even have decreased. Earnings may vary significantly among people with the same level of education working at the same occupations solely because of their different organizational affiliations. A young man with four years of work experience might earn much more than his father who held a similar job and had forty years of work experience, simply because they were affiliated with different work units (National Information Center 1997).

This irony may be understood in terms of the effect of marketization on the work unit. Market-oriented economic reforms widened the income gap between employees in different work units. Interorganizational inequality may be attributed

substantially to the emergence of a market sector. Firms in the market sector tended to be more efficient and profitable than their state counterparts. As a result, employees in the market sector were more likely to receive high wages than employees in the state sector. Indeed, in 1991 the average monthly wage was 60% higher in the market sector than in the state sector; comparable figures for 1993 and 1995 were 62% and 55%, respectively (State Statistical Bureau 1996). While this gap could be partly due to differences in occupational composition in the two sectors, the differentials in profitability between state firms and market firms also contributed to the gap.

Interorganizational inequality can also be accounted for by the increasing autonomy of work units in the state sector. Among decision-making powers that work units had gained, the most important one was to retain a portion of profit and to distribute the profits at their discretion to employees as bonuses. Accordingly, firms had more incentive to produce profits, and employees had more incentive to work. The retained profits partly went to the welfare fund⁴ and partly went directly to bonuses. The welfare fund increased the capacity of work units to provide noncash items and services to their employees, whereas bonuses directly increased employees' monetary incomes. In general, employees have been increasingly rewarded with cash income in the reform era. Bian and Logan (1996) found that base salaries as a percentage of a worker's total income dropped from 95% in 1978 to less than 50% in 1993, indicating that bonuses were now the principal element of total earnings (Bian & Logan 1996). While base salaries remained largely regulated by the government, the ability to generate bonus funds and to reward employees varied considerably from one work unit to another. Therefore, variation in bonuses (and in-kind benefits) had become a main source of interorganizational inequality (Sun et al. 1994; Zhao 1993).

Within work units, bonuses are also key to understanding the process of income distribution. Bonuses, which were initially generated as individual incentives, were found to be allocated equally within work units, regardless of individual characteristics (Walder 1990). This tendency was retained even when bonuses became a major part of employees' earnings (Li 1989). In sum, because of the differential ability of work units to generate bonuses, income inequality among work units became greater during the reform period in China than before. Within work units, on the other hand, bonuses tended to equalize income distribution. As a result, the amount of economic rewards that employees received was largely contingent upon what work unit they were employed by rather than on their personal characteristics, the nature of their job, or how well they performed. In urban China, the effect of the market transition on individuals' income was mediated through their work units and therefore must be gauged within the specific institutional settings of economic work units (firms).⁵

Hypotheses

There is some difficulty empirically measuring the contextual effect of the market in determining urban employees' income. Xie and Hannum (1996) adopted the growth of regional industrial output as a proxy to account for the extent of the shift to a market environment. However, specifying a contextual variable at the city level is not sufficient to capture the dominant effect of work units on urban income inequality as described above since there is great heterogeneity among work units within the same locale. Moreover, the measure conflates market-driven economic growth with nonmarket industrial growth in the state sector. In an alternative approach, Nee (1996) measured the market effect by asking respondents whether they participate in the labor market. Though this approach may to some extent capture differences in labor recruitment between the state sector and the market sector, variations in the extent of marketization of the state sector are not captured since labor markets for state employees have been virtually absent until recently. As I have indicated, the market-oriented reforms have exerted influence primarily on work units rather than on individuals in urban China, and thus market effects should be measured at the mesolevel of work units.

Based on the extent of exposure to the market, firms can be classified into three types. Most fundamental are institutional differences between state and market firms. Here state firms are defined to include all state-owned enterprises and some collective enterprises ("large collective enterprises"), while market firms are defined to include the remaining collective enterprises ("small collective enterprises") as well as private enterprises, share-holding enterprises, joint-ventures, and foreign enterprises. Though collective firms are considered publicly owned, they are very heterogeneous, especially since the reform. "Large collective firms" are usually directed by the local government or community and are therefore institutionally similar to state firms. They get substantial assistance from the government and undertake substantial welfare responsibility. In contrast, "small collective firms" receive little protection and assistance from the government and must struggle in the market to survive. Therefore, although in terms of property rights small collective firms may not be strictly private, their operating mechanisms are, indeed, market-oriented.

Market firms must rely on the market to survive, while state firms still enjoy some redistributive advantages. However, state firms are no longer homogeneous. Some of them have gained more autonomy from the government and have become deeply engaged in market activities, whereas others are still under rigid government control. Therefore, conceptually, firms within the state sector can be institutionally divided into two types: redistributive firms and semiredistributive firms.

The reliance of state firms on the market is a latent variable that must be multidimensionally measured with a few observable indicators, of which firm profit is essential.⁶ Since semiredistributive firms have more autonomy than fully redistributive firms to engage in market activities while still enjoying their

redistributive advantages, they generally show higher profits than do redistributive firms. The high retained profits, in return, consolidate firms' autonomy since financially they may have to rely on government less than they used to. As described above, a part of the retained profits is allocated to employees as bonuses, which are key to understanding the income distribution in Chinese work units. Therefore, firm profit is an appropriate (although certainly not perfect) indicator to distinguish between semidistributive firms and redistributive firms for the specific purpose of addressing the institutional impact of state firms on income inequality. Accordingly, state firms can be categorized into low-profit state firms (LPFs) and high-profit state firms (HPFs). The institutional difference between LPFs and HPFs is that the latter, while continuing to enjoy redistributive advantages, have also successfully adjusted to the market.

One may argue that firm profit is affected not only by firms' exposure to the market but also by many other external conditions such as the industry in which a firm is located, as well as favorable government policies. While a competitive market does not guarantee high profits in general, in a transitional economy such as that of China, state firms closer to markets tend to be more profitable. This is because state firms that can take advantage of both redistribution and markets usually perform better than those isolated from markets.⁷ Only through market activities can redistributive advantages be turned into high profits. Vice versa, if industry is controlled — given that industry certainly affects profit — higher profit implies that a firm is closer to the market. Since firm profit is both the outcome of a state firm's reliance on the market and the most important source of employees' earnings, I use profit as an indicator to distinguish between redistributive firms and semiredistributive firms.

Following market transition theory, I formulate the following hypotheses that can be tested with my cross-sectional data assuming that, as I have argued, LPFs, HPFs, and MFs constitute a continuum of proximity to the market:

Hypothesis 1: If a firm is closer to the market, education will have a greater effect on employees' earnings (base salary plus bonuses).

Hypothesis 2: If a firm is closer to the market, work experience will have a greater effect on employees' earnings.

Hypotheses 1 and 2 predict that human capital (education and work experience) affects employees' earnings more strongly in MFs than in state firms. Within the state sector, education and work experience are expected to have stronger effects in HPFs than in LPFs.

Hypothesis 3: If a firm is closer to the market, an individual employee's administrative position will have less influence on his or her earnings.

Hypothesis 4: If a firm is closer to the market, an individual employee's party membership will have less influence on his or her earnings.

Hypothesis 5: If a firm is closer to the market, the firm's bureaucratic rank will have less effect on employees' earnings.

An employee's party membership and administrative position are proxies for redistributive power at the individual level, while the bureaucratic rank of the firm represents the influence of redistributive power at the work-unit level. While most previous research has focused on either party membership or individual's administrative rank, or both, this article introduces an additional factor at the organizational level to capture the effect of redistributive power on the well-being of individuals. Based on my previous discussion of the central role of work units in Chinese urban society, I suggest that the status of organizations that employees are affiliated with creates great advantages with respect to income and other benefits. Hence, the redistributive nature of work-unit organizations is measured by both ownership type and bureaucratic rank. According to hypotheses 3, 4 and 5, an individual's party membership, administrative position, and firm bureaucratic rank will have smaller effects on earnings in MFs than in state firms. Within state firms, the effect of party membership, administrative position and firm's bureaucratic rank will also be smaller for employees in HPFs than in LPFs.

Hypothesis 6: If a firm is more profitable, its employees will have higher earnings.

Within the state sector, employees' earnings are closely linked to the business performance of their work units. The higher the profits a firm earns, the more resources it can retain at its disposal. As a result, employees may receive more bonuses and subsidies. In market firms, which usually are more profitable than state firms, all rewards that employees receive have to come from firm profits. Therefore, firm profits are expected to be positively associated with employees' earnings, net of other factors.

Data, Variables, Methodology, and Models

DATA

This research is based on two data sets both collected in 1993 in China. One is from a multistage representative survey of Chinese workers and their work units, implemented through the Chinese National Research Center for Science and Technology for Development; the other is from a survey of housing and social stratification in Tianjin. As part of the first project, about 10 work units were first randomly sampled in each of 10 cities, then about 30 employees were randomly sampled from each of these work units.⁸ This yielded 3000 employees at 107 Chinese work units (for details on the research design, see Li & Wang 1996; Li, Wang & Li 1996), but only the 50 economic work units sampled are used in this analysis, which means that the sample of individuals is reduced to 1,499.

Compared with data sets that have been used in preceding studies, this data set has many advantages. First, it contains key measurements of organizational variables, such as ownership and firm profit. Because the survey measured firm profit, it is possible to categorize state firms in terms of their profitability in order to look at variations within the state sector. Second, there are relatively more employees in the market sector in this data set than in others. The sample includes 218 individuals in 10 market firms; this accounts for 14.5% of sampled employees and 20% of sampled work units. This sample differs from both Xie and Hannum (1996) and Bian and Logan (1996), where the number of cases from the market sector is negligible (less than 3%). Third, although the sample size is not as large as would be optimal due to financial constraints, it has the benefit of being a multicity survey.⁹ Finally, since 1991-92 was a key period in the process of China's economic reform because a new round of marketization was initiated, data collected in 1993 are more adequate than data from the 1980s for examining the depth of current market penetration.

The weakness of this data set is that bonuses were not measured separately from base salaries. Because bonuses are fairly important in understanding the effects of marketization on the work unit, to account for their role in total income distribution within state firms, I use a second data set, restricted to state firms, collected in Tianjin by Bian and Logan in 1993. These data are from an individual household survey, containing separate measurements of bonuses and base salaries, as well as other variables comparable to those in the first data set.

VARIABLES

Both data sets include measurements of individuals' annual income in yuan earned from their work unit in the previous year (1 yuan = U.S. \$0.12). I use the logarithm of annual income as the dependent variable in the OLS regression analysis.

The independent variables include both individual characteristics and organizational characteristics. On the individual level, education and work experience are important indicators of human capital, pertinent to hypothesis 1 and hypothesis 2. Years of employment, denoting work experience, is a continuous variable. Education is measured by five categories corresponding to the level of the degree attained (1 = primary school or less; 2 = junior middle school; 3 = senior middle school; 4 = three-year college; 5 = four-year college or more). In the analysis, education is treated as a set of dummy variables. Since there are relatively few cases with low levels of education, I collapsed primary school and junior high school in the first data set. Generally, employees with more work experience and education are expected to have higher earnings than those with less work experience and lower education. Party membership is coded as a dummy variable. Individual administrative position, pertaining to hypothesis 4, was originally measured by four

levels (1 = below department; 2 = department; 3 = division; 4 = bureau or above). Because so few high-rank cadres were included in the sample, I recoded administrative position as a dummy variable (those at the rank of department or above are scored 1 and others are scored 0). Gender is included as a control variable, with males scored 1 and females scored 0.

On the organizational level, ownership is one of the critical criteria that institutionally differentiate work units. The distinctions between state firms and market firms are much larger than between different forms of state ownership. State and collective firms share redistributive characteristics in many aspects, while the emergence of market firms is an outcome of economic reforms. To capture the difference between market and redistribution, ownership is coded as a dummy variable: state versus market firms.

Firm bureaucratic rank in hypothesis 5 is another crucial variable that characterizes the redistributive status of a work unit. Work-unit rank is measured in four ordinal levels with a value from 1 to 4 (1 = below department; 2 = department; 3 = division; 4 = bureau or above). As previously pointed out, employees in high-rank work units have advantages with respect to salaries as well as to in-kind benefits in socialist redistributive economies. In hypothesis 6, firm profit is measured by profit per capita in the preceding year, i.e., gross profit divided by the total number of employees. This information was reported by the firm's financial department. Though it is true that some private firms may misreport their earnings in order to avoid tax, it should not lead us to doubt the reliability of the measurement of profit for most firms. Moreover, interviewers explained that the survey data were collected for the purpose of academic research and that all information would be kept confidential. Therefore the potential problem of misreporting was further reduced.

The industry in which a firm is located is introduced as a control variable since firm profitability may vary across industries. Industry is coded as a dummy variable (1 = manufacturing, 0 = others). As I argued above, net of the effect of industry, a state firm's profitability may be taken as reflecting its exposure to the market. Table 1 shows the means and standard deviations of all variables.

By dividing state firms into LPFs and HPFs at the mean profit per capita, means and standard deviations of earnings can be calculated for all three types of work units. In Figure 1, employees' average earnings are highest in MFs and, in consequence, lowest in LPFs. However, the standard deviations fail to follow the same pattern. HPFs, instead, have the least income variation among their employees.

To indicate overall income inequality, Gini coefficients are calculated as well, separately for each type of firm. The overall Gini coefficient is .223, while for LPFs, HPFs, and MFs, the coefficients are .230, .163, and .269, respectively. Market firms have higher income inequality than state firms. However, it is noteworthy that income inequality in LPFs is higher than in HPFs. With increasing proximity to the market, overall income inequality does not monotonically increase.¹⁰

TABLE 1: Means and Standard Deviations for Dependent and Independent Variables

	Ten-City Data		Tianjin Data ^a	
	Mean	Std. Dev.	Mean	Std. Dev.
Dependent variable				
Income	2804	1206	2837	1994
Logarithm of income	7.866	.599	7.806	.502
Logarithm of base salary	—	—	7.335	.321
Logarithm of bonus share	—	—	.471	.407
Independent variables				
Individual characteristics				
Education				
Primary school	.041	.232	.408	.209
Junior high school	.110	.199	.422	.492
Senior high school	.406	.313	.130	.412
Three-year college	.370	.060	.029	.337
Four-year college or above	.493	.483	.237	.168
Work experience ^b	13.7	9.501	44.7	1.624
Administrative position rank (dept. or above = 1)	.160	.366	.215	.411
Party membership	.252	.434	.226	.418
Male	.530	.499	.729	.445
Organizational characteristics				
State ownership	.855	.353	—	—
Firm rank				
Below department	.283	.304	.228	.185
Department	.451	.460	.420	.388
Division	.179	.235	.309	.278
Bureau or above	.383	.424	.462	.448
Firm profit	.404	.387	—	—
Manufacturing industry	.796	.403	—	—
N	1499	—	554	—

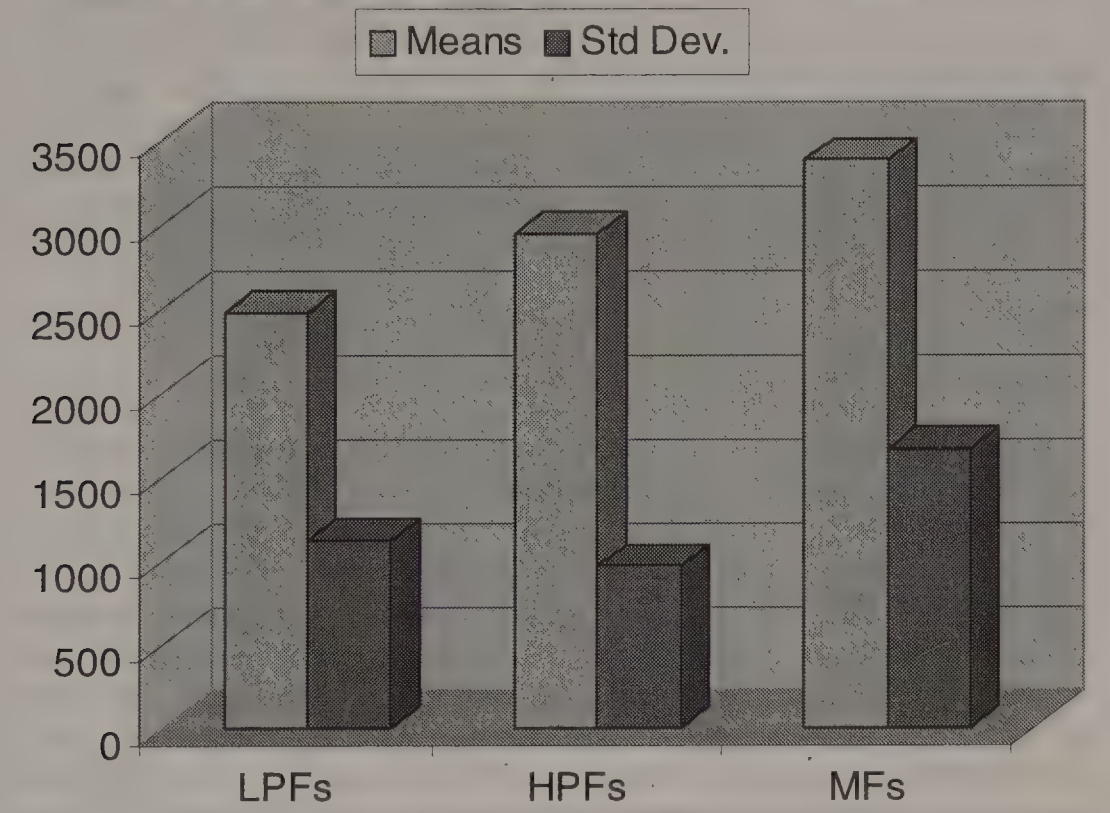
^a Include respondents only in state firms

^b Work experience, for Tianjin data, refers to age.

METHODOLOGY AND MODELS

As noted above, in the ten-city data set work units were sampled and then employees were randomly sampled within work units (Li & Wang 1993; Li, Li & Wang 1996). This means that observations are clustered. To compute correct standard errors, I use OLS regression with a Huber correction (STATA Corp. 1996).¹¹

FIGURE 1: Means and Standard Deviation of Employees' Earnings in Three Types of Firms



In the following analysis, I first examine the effects of individual characteristics on income distribution as a baseline model (Table 2, model 1).¹² Then in model 2 of Table 2, the organizational variables are controlled. Model 3 of Table 2 shows differences between state and market firms with an interaction term between individual characteristics and ownership. In Table 3, I further examine the role of firm profit in modifying the effect of individual characteristics on income within state firms, controlling industry.¹³ Finally, to account for the role of bonuses in income inequality within the state sector, I use the second data set from the Tianjin survey to decompose employees' total income into two parts, following Xie and Hannum (1996).¹⁴ In state firms, an employee's total income (Y) equals base salary (Y_1) plus bonus (Y_2), therefore,

$$\begin{aligned}
 T &= \log(Y_1 + Y_2) \\
 &= \log(Y_1) + \log\left(1 + \frac{Y_2}{Y_1}\right) \\
 &= \log(Y_1) - \log\left(\frac{1 - Y_2}{Y_1 + Y_2}\right) \\
 &= S + B
 \end{aligned} \tag{1}$$

TABLE 2: Coefficients of Regression for the Logarithm of Income on Selected Variables with Robust Standard Errors: Ten Cities, China 1993

	Model 1	Model 2	Model 3
Education (junior high school or below omitted)			
Senior high school	.143* (.067)	.114 (.059)	.305 (.202)
Three-year college	.297*** (.073)	.226*** (.067)	.579** (.191)
Four-year college	.435*** (.089)	.354*** (.085)	1.025*** (.347)
Work experience	.020*** (.003)	.019*** (.003)	.035** (.010)
Party member	-.014 (.037)	.012 (.035)	-.049 (.101)
Administrative position rank (dept. or above)	-.032 (.052)	-.010 (.047)	-.471** (.185)
Male	.114** (.043)	.080* (.036)	.071* (.033)
Firm rank (dept. below omitted)			
Department	—	.008* (.068)	.007 (.066)
Division	—	.140 (.107)	.154 (.009)
Bureau or above	—	.104 (.081)	.119 (.079)
Firm profit	—	.392*** (.111)	.382*** (.103)
State ownership	—	-.073 (.132)	.302 (.317)
Interaction			
Senior high school * State firm	—	—	-.233 (.212)
Three-year college * State firm	—	—	-.415* (.207)
Four-year college * State firm	—	—	-.766** (.359)
Experience * State firm	—	—	-.018 (.011)
Administrative position * State firm	—	—	.510** (.188)
Party member * State firm	—	—	.073 (.110)
Constant	7.366*** (.095)	7.282*** (.174)	6.975*** (.329)
R ²	.155	.231	.248
(N = 1499)			

Note: Figures in parenthesis are robust standard errors.

In equation 1, S is the logarithm of base salary and B is the logarithm of the transformation of the proportion the bonus contributes to total income. This decomposition has several advantages. First, bonuses (Y_2) can be 0, which means that the total income is equivalent to the base salary, and the contribution of bonuses to total income is 0. Second, it is the proportion the bonus contributes to the total income rather than the size of the bonus per se that is of concern. Finally, this formula makes it possible to decompose the effects of specific variables on total income and to determine how much is due to their respective effects on base salaries and bonuses.

Results

Table 2 presents the results of three models of the determinants of the natural log of income, based on the ten-city data with standard errors adjusted for clustering. In model 1, in which only individual predictors are included, the effects of both education and work experience are highly significant, while administrative position and party membership have no effect at all. As is generally true, men earn more than otherwise similar women. In model 2, organizational variables are included. As a result, although the effect of senior high school education becomes only marginally significant, postsecondary education still has advantages. Three-year college graduates earn 25.4% ($= e^{0.226} - 1$), and four-year college graduates earn 42.5% ($= e^{0.354} - 1$), more than do those with junior high school or less education, net of other factors. A Wald test shows that the joint effects of all levels of education are highly significant ($F[3,51] = 6.75, p < .001$). Second, the effect of work experience is also statistically significant at the .001 level. Each additional year of work experience brings about a 2% increase in income, net of other factors. Third, measuring the effect of redistributive power produces a surprising result: neither party membership nor administrative position has any independent effects on income.¹⁵

In model 2 of Table 2 we see that although neither firm bureaucratic rank nor ownership directly affects employees' incomes, firm profit is a stronger predictor. If a firm's profit per capita increases by one unit (ten thousand yuan), its employees' income would be expected to increase by 48.0% ($= e^{0.392} - 1$), net of the other variables. This is consistent with hypothesis 6 and our common sense: people working in more profitable firms tend to have higher earnings. The different effects of organizational characteristics suggest that while work units are still important in determining income (via profit), the redistributive influence that work-unit bureaucratic rank and ownership represent is no longer significant.

Model 3 in Table 2 shows the difference between state and market firms. The increasingly negative coefficients of the interaction term between education and ownership suggest that education has stronger effects on earnings in market firms

than in state firms. In market firms, the expected income for people with senior high school education is about 35.7% ($= e^{0.305} - 1$) higher than for people with junior high school education or less, whereas in state firms the corresponding figure is 7.5% ($= e^{0.305 - 0.233} - 1$), net of the other variables. Likewise, in market firms, the expected income for people with 3-year college education is 78.4% ($= e^{0.579} - 1$) higher than for people with junior high school education or less, while in state firms the difference is only 17.8% ($= e^{0.579 - 0.415}$). Finally, in market firms the expected income of graduates of four-year colleges is 178.7% ($= e^{1.025} - 1$) higher than for those with no more than junior high school, whereas it is only 29.6% ($= e^{1.025 - 0.766} - 1$) higher in state firms, net of other factors. Therefore, education makes much more difference to earnings for employees in market firms than in state firms. These differences are statistically significant. Thus, hypothesis 1 is verified: education has a stronger effect on employees' incomes in firms closer to the market.

There is no difference in the effect of work experience between state firms and market firms. Although the negative coefficient of the interaction term suggests that experience is more valuable in market firms than in state firms, the difference is very small and is not statistically significant. Therefore, hypothesis 2 is not supported. Seniority, denoted by work experience, is an important criterion of income distribution in the socialist hierarchy as well as in the market economy, as is confirmed by the positive, and statistically significant, main effect of experience. In sum, the hypotheses that marketization increases returns to human capital holds true only for education.

The difference in the effect of administrative position between the state and market firms is also statistically significant. The positive coefficient of the interaction term indicates that administrative position has more impact in state firms than in market firms. In market firms, the net effect of position is strongly *disadvantageous* with respect to income.¹⁶ In contrast, in state firms, administrative position is still advantageous, although the effect is small. Net of other factors, those at departmental rank or higher have about a 4% advantage in earnings relative to those at lower ranks. This finding clearly supports hypothesis 3, that is, the influence of redistributive power declines with a firm's closeness to the market.

Party membership, another indicator of redistributive power, has a more positive effect on employees' incomes in state firms than in market firms. In market firms, party members actually have a disadvantage in income, net of other factors, though the difference is not statistically significant. This result lends some support to hypothesis 4, suggesting that redistributive influence is diminishing, even in state firms.

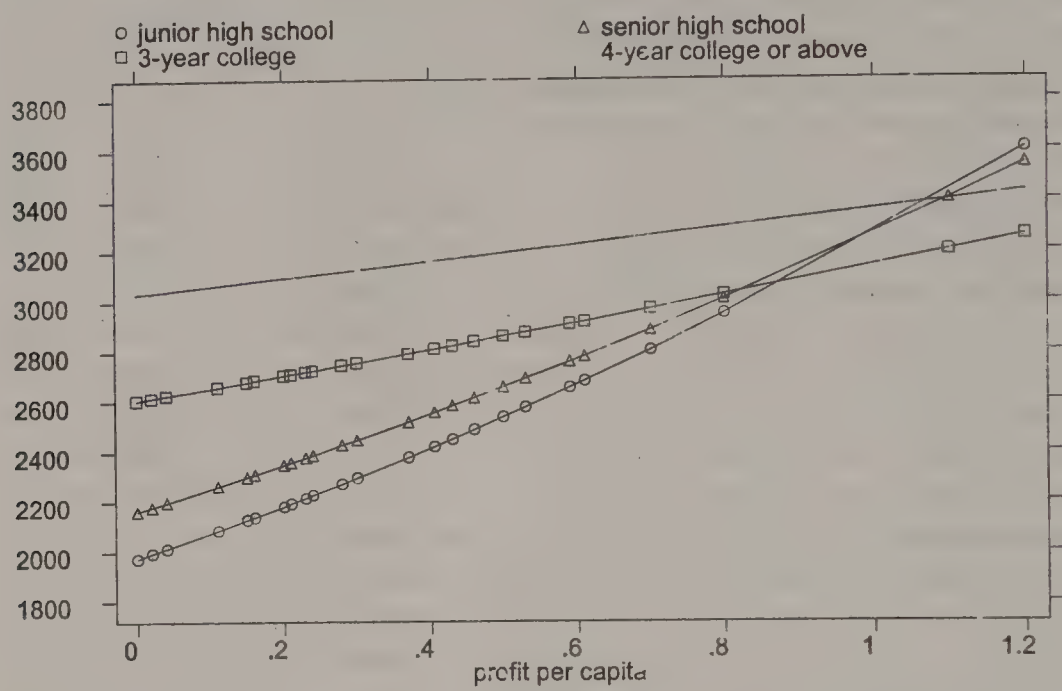
The above results confirm the pattern differences in income determination between state and market firms. A separate model for state firms is presented in model 1 of Table 3. While education and work experience are still significant predictors, firm rank has no significant effect on employees' income even in the

TABLE 3: Coefficients of OLS Regression for the Logarithm of Income on Selected Variables in State Firms: Ten Cities, China 1993

	Model 1	Model 2
Education (junior high school or below omitted)		
Senior high school	.076 (.054)	.080 (.077)
Three-year college	.175* (.068)	.270** (.094)
Four-year college or above	.275** (.083)	.411** (.123)
Work experience	.017*** (.002)	.016*** (.002)
Administrative position rank (dept. or above)	.039 (.046)	.043 (.045)
Party membership	.025 (.037)	.029 (.037)
Male	.058 (.032)	.054 (.031)
Firm rank (below dept. omitted)		
Department	.031 (.070)	.031 (.071)
Division	.170 (.108)	.161 (.106)
Bureau or above	.149 (.077)	.154* (.075)
Firm profit	.279* (.114)	.421** (.164)
Manufacturing firm	.010 (.058)	.013 (.057)
Interaction		
Senior high school * Profit	—	-.040 (.130)
Three-year college * Profit	—	-.283* (.133)
Four-year college * Profit	—	-.358* (.173)
Constant	7.287*** (.078)	7.250*** (.085)
R ² (N = 1281)	.211	.216

Note: Figures in parentheses are robust standard errors.

FIGURE 2: The Effect of State Firm Profit on Returns to Education



state sector, net of other variables. After a decade of economic reform, firm rank has no effect on income for any firm. This result is neither for nor against hypothesis 5. If firm rank is altogether unimportant, it cannot be less important in market firms than in the state firms.

Within the state sector, firm profit deserves further attention since firm profit is the main source of employees' bonuses. Table 3 shows, again consistent with hypothesis 6, that firm profits significantly increase incomes, net of other factors. If a firm's profit increases by one unit (10,000 yuan per capita), employees' earnings increase by 32.2%, net of the other factors. However, contrary to our commonsense view, high profit does not increase returns to education. In model 2 of Table 3, the coefficients of the interaction terms between education and firm profit are negative, indicating that the effect of education decreases with the increase of firm profit. For those with a junior high school education or less, each additional unit in a firm's profit increases expected income by 52.3% ($= e^{0.421} - 1$), net of other factors. For high school graduates, the expected increase is only 46.4% ($= e^{0.421 - 0.040} - 1$); for three-year college graduates it is 14.8%; and for four-year college graduates it is 6.5%. A Wald test shows that the interactions between education and profit are as a group statistically significant ($F[3,40] = 4.52, p < .01$). Therefore, we can conclude that, within the state sector, education is more influential in determining income in LPFs than in HPFs. Because HPFs are closer to market than LPFs, these results seem contradictory with hypothesis 1, which predicts that education has a stronger effect on income in firms closer to the market.

TABLE 4: OLS Regression Coefficients for Base Salary, Bonus Share and Total Income on Selected Variables — 1993 Tianjin, China

	Model 1 Base Salary (S)	Model 2 Bonus Share (B)	Model 3 Total Income (T)
Education (primary school omitted)			
Junior high school	.203*** (.051)	.093 (.059)	.296*** (.073)
Senior high school	.188*** (.052)	.118 (.063)	.306*** (.078)
Three-year college	.177*** (.059)	.040 (.076)	.218* (.093)
Four-year college or above	.344*** (.076)	.022 (.075)	.366*** (.106)
Age	.010*** (.002)	-.010*** (.002)	-.0001 (.002)
Administrative position (dept. rank or above)	.081* (.033)	.027 (.046)	.108 (.055)
Firm rank (below dept. omitted)			
Department	.025 (.041)	.037 (.052)	.062 (.064)
Division	.097* (.038)	.038 (.051)	.136* (.061)
Bureau or above	.076* (.038)	.062 (.046)	.139* (.058)
Party membership	.074* (.033)	.102* (.049)	.176** (.056)
Male	.091*** (.026)	.088* (.038)	.179*** (.046)
Constant	6.577*** (.098)	.689*** (.125)	7.265*** (.144)
R ²	.248	.114	.146
(N = 554)			

Note: Figures in the parenthesis are robust standard errors.

* $p < .05$ ** $p < .01$ *** $p < .001$

This outcome may reflect the equalizing influence of bonuses, which — as noted above — are known to be more equally distributed within firms than base salaries. Figure 2 is consistent with this claim. Although incomes of all employees increase as profits increase, the effect of the greater increases for workers with little

education discussed above is to equalize incomes in high-profit firms, in contrast to the large association between education and income in low-profit firms.

Direct confirmation of this conjecture can be found in the Tianjin data, which includes separate measures of base salaries and bonuses (both cash bonuses and noncase welfare converted into cash equivalents); recall equation 1. Table 4 shows models for factors affecting base salaries, bonus shares, and total income.

In the equation for base salary (model 1), all variables affect the logarithm of base salary. However, in the equation for bonus shares (model 2), all levels of education have no significant effect. Still, the coefficients are higher for those with junior and senior high school education than for those with tertiary education, which implies that these groups tend to get higher bonuses relative to their base salaries. Second, with respect to age, the discrepancy between base salaries and bonuses is even more evident. While base salaries increase with age, age has a slightly negative, but significant, impact on bonus shares. Thus, senior employees tend to receive smaller bonuses relative to their base salaries. Each extra year of age decreases the expected logarithm of bonus shares by 0.010, net of the other factors. Finally, neither administrative position nor firm rank affects the size of the bonus share. In sum, bonuses are distributed more equally than base salaries.

The model for total income can be obtained by adding the coefficient for base salary to the corresponding coefficient for bonus shares, as is done in model 3 of Table 4. In this way, the effects of human capital variables on total income can be decomposed into their effects on base salary and on bonus shares separately. Education determines total income inequality mainly through its effect on base salary, which is hierarchically distributed in socialist economies. A bonus share is not significantly affected by educational level and thus contributes little to the income inequality among different levels of education. Indeed, the standard deviation for base salary is 890 yuan, and the standard deviation for bonuses is 710 yuan (excluding six outliers). Therefore the findings by Walder (1990) and Xie and Hannum (1996) are to some extent reconfirmed here. This explains how education has less effect on total income in HPFs than in LPFs. The more profit a firm earns, the higher proportion of total income is due to bonuses. As a result, the effect of education on total income decreases.

Summary and Conclusion

To summarize, using two survey data sets, I have tested the hypotheses that in firms more proximate to the market, the influence of redistributive power (party membership, administrative position, and work-unit rank) declines and returns to human capital (education and work experience) increase. With respect to redistributive power, my results show that in the 10-city study, neither party membership nor firm rank has any net effect on income in any type of firm, and

thus provide evidence neither for nor against hypotheses 4 and 5. However, administrative position (hypothesis 3) has a strong negative effect on income in market firms, but a slight positive effect in state firms, which is consistent with Nee's claim that the influence of redistribution declines as marketization proceeds. By contrast, two hypotheses regarding returns to human capital and especially to education are not fully supported by the evidence. While education (hypothesis 1) has a stronger effect on income in market firms than in state firms, within the state sector it is less influential in HPFs than in LPFs. Thus, the effect of education does not monotonically increase with a firm's proximity to the market. The positive effect of work experience on income does not differ by organizational type; therefore, hypothesis 2 is unsupported.

Although hypothesis 6 is not directly linked to the effects of market transition, it provides a key to understanding this process and explaining findings about the effects of redistributive power and human capital. Results show that individual income is positively associated with firm profit, the main source of employees' bonuses. The analysis based on the Tianjin data confirms that bonuses, derived from firm profits and allocated more equally than base salaries, may account for the lower returns to education in HPFs than in LPFs.

Market transition theory predicts that the influence of redistribution decreases and that returns to human capital increase as a redistributive economy moves to a market economy, and that overall income inequality declines in the initial stage of the transition and later increases. My findings suggest that while redistributive power has declined, returns to human capital have not increased monotonically. Furthermore, the fact that education has a greater effect on income in market firms than in state firms favors market transition theory (Nee & Cao 1995). However, within state firms, in contradiction to market transition theory, the effect of education on total income declines with the proximity of a firm to the market. This effect is exactly what Xie and Hannum (1996) found, even though they may have used an inappropriate indicator (growth rate of GDP) to measure the level of marketization.

My findings partially confirm Nee's description of distinctive patterns of social stratification in the state and market sectors (Nee 1996; Nee & Cao 1995). While confidently claiming that market transition theory is strongly supported in the market sector, Nee has been ambiguous on whether it was confirmed in the state sector. Not all evidence unfavorable to market transition theory can be attributed to residues of the redistributive system. The effect of education on income is a good example. Higher returns to education are not limited to market economies. Socialist societies are credential societies, in which more highly educated people are also favored, at least in base salary.¹⁷ In the prereform period, education was also an important source of income inequality and a major mechanism of social mobility (Walder 1995; Zhou 2000a). Since firm profits had little impact on individual income and a national wage table governed all firms, the effect of

education on income was considerable, and could be clearly seen within each work unit. In contrast, as the economic reform took effect, differences among work units in the profits made and retained have increased. Since the income gap among individuals working in different work units is largely due to differences in bonuses, which are distributed relatively equally within work units, the within-firm level of inequality has declined.¹⁸ Thus, the declining effect of education on income in state firms is itself a consequence of the economic reform rather than the persisting influence of the old system.

My analysis of state firms also confirms the egalitarian trend in income distribution in China revealed by Xie and Hannum (1996). It explains how income inequality declined in the initial stage of the market transition (Bian & Logan 1996; Griffin & Zhao 1993; Nee 1989, 1991; Szelenyi 1978, 1983). Indeed, as Szelenyi and Kostello (1996) point out, it is implausible to argue that inequality declines, on the one hand, and returns to education increase, on the other. If highly educated people earn much more than people with lower education, the overall level of inequality in a society should increase rather than decline. According to Szelenyi and Kostello's institutional explanation, the effect of education logically should have declined in the initial stage of the reform and increased later (Szelenyi & Kostello 1996). My findings about the different effects of education on income in concrete institutions substantiate their theoretical conjecture about returns to human capital. While redistributive influence declines, returns to education decrease at first but increase as marketization proceeds further. This is consistent with the trajectory of overall income inequality China has witnessed. In conclusion, studying the effects of marketization in specific institutional settings helps to explain the divergent findings from various sources and to resolve some issues in the ongoing debate.

Discussion: Toward a Substantive Institutional Analysis of Social Stratification in a Transitional Society

For a decade, market transition theory has stimulated a lot of intellectual exchange. The competing hypotheses and divergent findings so far have shown no sign of resolution. Nee's early formulation of market transition theory contains two interrelated parts: the declining influence of redistributive power and increasing returns to human capital (Nee 1989, 1991). Empirical studies have shown: (1) the influence of redistributive power persisted and returns to human capital did not increase and sometimes increased (e.g., Xie & Hannum 1996); (2) the influence of redistributive power persisted but the returns to human capital increased (e.g., Bian & Logan 1996; Zhou 2000a). My findings in this article, that the influence of redistributive power declined but returns to human capital did

not increase (at least within the state sector), have further confounded the already divergent results.

Furthermore, there is hardly any agreement in interpreting those results. For example, proponents of market transition theory argue that theses of power persistence (Bian & Logan 1996) or power conversion have been incorporated into their theory (Cao & Nee 2000). Others have contended that observations of increasing returns to education (human capital) cannot substantiate claims by market transition theorists because education was highly rewarded even in the pre-reform era (Zhou 2000a). As Zhou (2000b:1193) comments: "when a theoretical debate generates more controversies than intellectual growth, it often signals that conceptual issues and theoretical logic are poorly defined and they are not widely shared among other scholars. Another contributing factor is that concepts and operationalization employed in empirical studies may no longer reflect the changing world." My reflections on the market transition debate are very much in agreement with Zhou's position.

Conceptually, the controversy is rooted in the dichotomy of state and markets. Market transition theory puts emphasis on the emerging market economy whereas competing theories focused on the continuing role of the redistributive state in shaping the social stratification order (Bian & Logan 1996; Parish & Michelson 1996; Rona-Tas 1994; Walder 1995). This antithetical framework is espoused by most literature involved in the debate. The deadlock in the ongoing market transition debate implies that the division may have been improperly drawn. Zhou (2000a) has proposed a model of coevolution between politics and markets in the institutional transformation. The interaction between state and markets, nevertheless, still remains a black box. My work here moves a further step and offers a *concrete* institutional arrangement through which both political power and market forces must be implemented.

Empirically, two major explanatory variables (education and political attributes) representing the antithesis also deserve questioning. On the one hand, education is arbitrarily interpreted as a proxy for human capital in the market economy; hence its effect indicates the increasing importance of market mechanisms in generating inequality. However, educational credentials have significant effects on the allocation of resources and life chances in state socialist societies as well (Szelenyi 1988; Zhou 2000a). On the other hand, the effects of party membership and cadre status, representing the role of the redistributive state, were indeed filtered by other intermediate institutions (e.g., Oberschall 1996; Walder 1990, 1995).

While this article was initiated within the framework underlying the market transition debate, I do not intend to continue this debate because my findings add little to the messy substantive results. My results can neither be interpreted as supporting nor as refuting market transition theory. What we have learned from this debate is not a consensus conclusion but the deficiency of the framework that defines the division of the parties involved. This article focuses on the concrete

institutions by which markets and political forces are coevolving in the actual process of the transition, and, by doing so, suggests a further step beyond a debate that has run its course. Perhaps the extent to which work units are redistributive and the extent to which they are marketized are intrinsically unmeasurable, but at least we shed light on the role the organization of work units plays in the distribution of income and other resources. Zhou (2000b) has called for substantive institutional analyses of the actual process of social change ongoing in former state socialist societies. This article is an effort in this direction.

Notes

1. Walder does not explicitly make this point. However, he states: "since bonuses and other income are the components that have increased greatly in recent years, we can view their effects as one way of representing the impact of reform on income inequality" (Walder 1990:155). This is my interpretation of Walder's results.
2. According to the *China Statistics Yearbook*, in 1993 there were 109 million workers employed in the state sector, accounting for 74% of the total urban working population. Meanwhile, in the economic sector (excluding government and nonprofit institutions) there were 104,700 state work units, 1,803,600 collective work units, and 32,100 other work units. State firms hired 45 million workers, that is, 68% of the 66 million workers in the economic sector (SSB 1996).
3. These firms include joint-owned, share-holding, foreign-funded, overseas Chinese-funded, and domestic private firms (SSB 1996).
4. Typically, a specific percentage of the retained profit (3% to 10%) is transformed into the "work-unit welfare fund." Using the welfare fund, the work unit purchases housing units and other items and allocates them to employees. Employees have to pay for these goods, but at a price lower than the market price. This is called collective consumption (Bian 1994). Collective consumption is an important aspect of the impact of the work unit on economic inequality. Unfortunately, I do not have data on this aspect. The following analysis focuses on bonuses, the part of retained profits which is directly distributed to employees in cash. In the Tianjin data (see a description below), respondents reported the monetary values of in-kind goods they received from work units; I treat these as part of the bonus.
5. Although government agencies and nonprofit organizations are also called "work units," the attributes of work units described above typically refer to enterprises, or economic work units. In this article, I use the terms *firms* and *economic work units* interchangeably.
6. Others indicators are the proportion of products produced according to state plans, whether the product price is determined by the government, the amount of sales revenue, whether there is a dual-price system, and adaptations in organizational forms, each of which captures some of differences between semiredistributive firms and redistributive firms.

7. Firms that are publicly owned but enjoy few redistributive advantages, such as "small collective enterprises," are coded as "market firms."
8. The cities were Shenyang, Beijing, Baoding, Shijiazhuang, Luoyang, Wuhan, Lanzhou, Chengdu, Suzhou, and Guangzhou.
9. Many recent studies have been limited to data collected in Tianjin. Since Tianjin has lagged behind other areas in economic reform, findings in Tianjin may not represent the situation in China as a whole. For example, in previous Tianjin-based studies, administrative position and work unit rank have been found to significantly affect employees' incomes (Bian 1994; Bian & Logan 1996; Walder 1990). However, in the present study, this is not the case, probably because the sample of cities includes eastern coastal areas, such as Guangzhou and Suzhou, where the reform is more advanced.
10. A reviewer questioned whether this result simply reflected greater income inequality between firms in the market sector. To test this possibility, I computed the mean across firms of the standard deviation of income within each firm, in the market sector and the state sector respectively. The mean within-firm standard deviation is 996 yuan in the market sector, and 788 yuan in the state sector, suggesting that within-firm inequality is higher in the market sector.
11. There are actually several ways to solve the sampling problem. The Huber correction estimation command in STATA is:
`regress [dependent variable] [independent variables], robust cluster(work unit id).`
The robust and cluster options relax the independence assumption and require only that the observations be independent across the clusters. The coefficients are identical to OLS regression, but the standard errors are adjusted. This is called the Huber correction for standard errors, or robust estimation of variance (not robust regression).
12. Conventionally, the human capital model should include both work experience and the square of work experience. I first estimated the model with a squared term. However, since the squared term was not statistically significant, I dropped it in the interest of parsimony.
13. Conceptually, I have distinguished HPFs from LPFs: HPFs are more profitable than LPFs. However, since firm profit is a continuous variable, a suitable cutting point between LPFs and HPFs is not at all obvious. Therefore, instead of dividing state firms into distinctive groups at a cutting point of profit, I treat firm profit as a continuous variable that interacts with individual variables.
14. To build discrete models for base salary and bonuses, some scholars have used $\log(Y_1)$ and $\log(Y_2)$ (Bian & Logan 1996; Knight & Song 1993; Walder 1990). However, this approach is somewhat problematic because it excludes those respondents with no bonuses. Arbitrarily assigning a small number to replace zero value is also problematic.
15. A univariate analysis shows that administrative position does affect natural log of income at a conventional level of significance. However, after the human capital variables are included, it is no longer significant. This suggests that the zero-order association between position and income ($r = .16$) is a spurious consequence of differences in the

human capital of administrators and others: well-educated and senior employees are more likely to be promoted to administrative positions.

16. This result seems to be in complete contrast to what has been found in other countries. It may be because administrative position is closely related to, but not identical to, job position. The former denotes one's personal rank in the socialist hierarchical system and the latter denotes rank in terms of work responsibility. While job position is only applicable when a person is holding a job, administrative position, once acquired, is transferable across work units within the redistributive system. Inconsistency between job position and administrative position is possible within work units.

17. Formal education carries not only human capital, but also cultural capital (credentials). As Szelenyi has pointed out (1988), bureaucratic redistributive systems reward cultural capital more than human capital. Because in China only degrees from three-year colleges (*dazhuan*) or more (*benke*) are considered important credentials, the findings that only tertiary education has a significant impact on income can be interpreted in this way (See Peng 1992).

18. Take a simple example involving two employees (*A* and *B*) in a single work unit. In base salary, *A* earns \$2 and *B* earns \$1. *A* earns twice as much as *B*. Suppose both of them receive a \$1 bonus. After the bonus, *A* earns \$3 while *B* earns \$2. *A* earns only one and half times as much as *B*. Inequality declines. Indeed, dividing state firms in the first data set at the mean profit for state firms (.36), the descriptive statistics shown in Table 1 suggest that employees in HPFs generally receive a high level of income compared to their counterparts in LPFs because HPFs are able to pay higher bonuses. However, the income variation (standard deviation) among employees in HPFs is less than that in LPFs, indicating that income inequality in HPFs is lower than in LPFs.

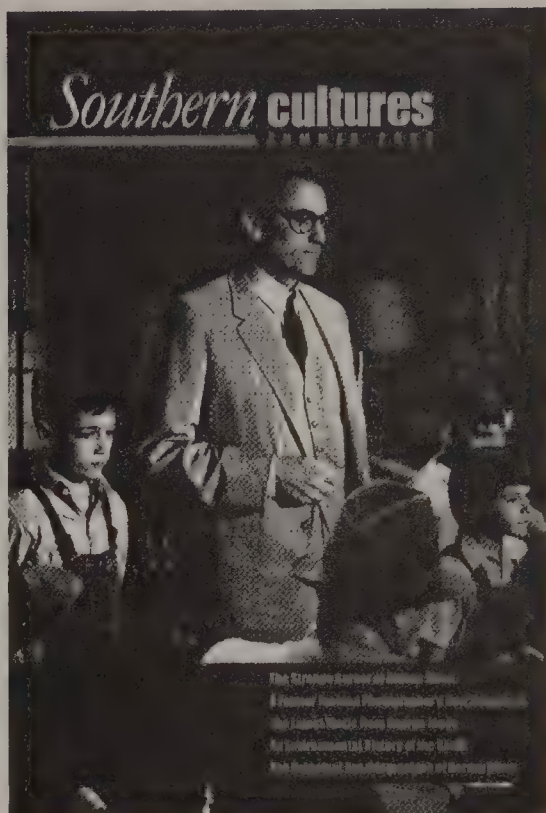
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Is the Mexican American “Epidemiologic Paradox” Advantage at Birth Maintained through Early Childhood?*

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Abstract

We examine the influence of the relative good health at birth in the Mexican American population on their subsequent well-being. Using the National Longitudinal Survey of Youth Child Data (NLSY-CD), we conduct a comparative analysis of child development among Mexican American, non-Hispanic black, and non-Hispanic white children ages 3 and 4 (N = 3,710). We use the Peabody Picture Vocabulary Test-Revised (PPVT-R) as our operationalization of child development. Descriptive results suggest that, unlike the relative similarity in the rates of low birth weight between the white and Mexican American populations, Mexican Americans have much lower developmental outcomes. Multivariate analysis shows that birth weight is not a powerful predictor of child development, nor does it explain pronounced racial and ethnic differences. Mother's education, poverty, and immigrant status of parents remain significantly more important in the developmental process of all children in our sample.

Although the relatively favorable birth outcomes of Mexican American infants have been studied extensively, the extent to which good health at birth affects their subsequent health and well-being has received little attention. Mexican American women have remarkably good birth outcomes compared to other populations in the U.S. of similar socioeconomic backgrounds, notably non-Hispanic blacks, and

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parallel to non-Hispanic white mothers, in spite of lower socioeconomic characteristics and poor rates of prenatal care use (Albrecht et al. 1996; Cobas et al. 1996; Cramer 1995; Frisbie, Forbes & Hummer 1998; Hummer et al. 1999; Scribner & Dwyer 1989). Moreover, among Mexican American women, immigrants tend to have healthier birth outcomes than women born in the U.S. (Cervantes, Keith & Wyshak 1999; Hummer et al. 1999; Landale, Oropesa & Gorman 1999; Scribner 1996; Singh & Yu 1996).

The unexpectedly good health at birth of Mexican Americans has been termed the "epidemiologic paradox" (Markides & Coreil 1986). These findings have been attributed to strong ties to Mexican culture, particularly in the immigrant generation, which compensate for low socioeconomic status and poor use of prenatal care. Aspects of Mexican culture that are suspected to lead to good pregnancy outcomes include a better diet, healthy practices (e.g., low rates of smoking, drinking, and drug use), and family support (Cobas et al. 1996).

In this study, we are interested in the relative influence of both birth weight and social risk factors, including generational status, socioeconomic characteristics, and patterns of health care use on the development of Mexican American children. This article presents the results of a study exploring whether the birth weight advantage of Mexican Americans is evident beyond birth in early childhood developmental outcomes. Specifically, we investigate if birth weight operates to produce favorable outcomes in early childhood in the area of child development, and, if not, what social and material resources account for racial and ethnic differences in development.

Background

BIRTH WEIGHT AND CHILD DEVELOPMENT

According to previous research, poor birth outcomes have important long-term health and developmental effects on children (Hack, Klein & Taylor 1995). Multi-year follow-up studies have shown that birth outcomes affect cognitive development during childhood as well as professional and economic attainment well into adulthood. For example, in a 26-year follow-up of a very large cohort ($N = 14,188$) of 1970 births, Strauss (2000) found that low birth weight individuals experienced deficits in academic achievement at ages 5, 10, and 16. Further, although the follow-up of low birth weight and normal birth weight adults in the study showed no significant differences in many social and emotional consequences, the low birth weight individuals had lower academic achievement and professional attainment than their normal birth weight peers. Similarly, a recent study found that persons with low birth weight ($< 2,500$ g.) were significantly less likely to graduate from high school in a timely manner compared to those with higher birth weights (Conley & Bennett 2000).

However, there is no literature specifically on Mexican American child development that incorporates the effects of immigrant status and history of birth outcomes. A major recent review of the literature on Hispanic health specifically states that research has not determined whether protective factors present during pregnancy help maintain healthy outcomes in Hispanic children (Guendelman 1998). However, what we do know is that Hispanic children overall tend to be less healthy than non-Hispanic white children during early childhood and adolescence (National Coalition of Hispanic Health and Human Services Organizations 1995). In perhaps the most comprehensive study to date, Guendelman, English & Chavez (1995) found that social conditions significantly influenced the health of young Mexican American children (aged 8-16 months), such that the prevalence of some serious illnesses among a subset of these individuals was comparable to non-Hispanic children from other socially disadvantaged environments. Thus, the study strongly suggests that the disadvantaged social conditions of Mexican American children can erode their favorable health at birth and, by extension, negatively influence their developmental outcomes. Nevertheless, the Guendelman, English, and Chavez (1995) study was limited to just one county in southern California, and, importantly, was not able to consider other developmental outcomes.

Furthermore, the lack of access to primary care is considered the defining characteristic of child health in the Mexican American population (National Coalition of Hispanic Health and Human Services Organizations 1995). It is possible that the inadequate use of prenatal care services by Mexican American mothers may predict a limited use of primary health care for their children, which in turn may preclude the screening for developmental problems. Therefore, in this study, particular attention will be given to the effects of health care use, poverty, and other social risk factors that may also strongly influence child development outcomes. In order to address the research question, we conduct a comparative analysis of Mexican Americans, non-Hispanic whites, and non-Hispanic blacks. Of specific interest in this study is the effect of birth weight on cognitive development, which we measure using the Peabody Picture Vocabulary Test-Revised (PPVT-R).

As part of research on the general population, birth weight has occasionally been included as a control variable in studies on the effect of socioeconomic status on child development. These studies have found that the effect of birth weight is less significant than poverty and other disadvantaged social conditions (Duncan & Brooks-Gunn 1997; Korenman, & Sjaastad 1995; Smith, Brooks-Gunn & Klebanov 1997). However, the effects of birth weight have not been studied in separate models for Mexican Americans, although factors affecting birth weight operate differently for this population than for other racial and ethnic groups (Cobas et al. 1996; Frisbie, Forbes & Hummer 1998). As discussed in the introduction, low socioeconomic status (SES) and poor prenatal care do not necessarily have the same negative effects on birth weight on Mexican American infants as they do on non-Hispanic blacks. Moreover, empirical research that suggests the mechanisms

that affect child development in Mexican American children is very limited (Fitzgerald, Lester & Zuckerman 1999). Most existing studies of Mexican American child development, with very few exceptions, are based on small nonrepresentative samples and are generally confined to a small geographic area or a single health facility (Padilla n.d.).

PPVT AND MINORITY CHILDREN

One important issue in this and related studies is the degree to which standardized tests accurately characterize the developmental processes of minority children; that is, whether they can be considered culturally valid. Indeed, several studies have found that black and Hispanic children consistently score lower than white children (Bracken & Prasse 1984; Halpin, Simpson & Martin 1990; Sharpley & Stone 1985; Washington & Craig 1992), although the full reasons for these disparities are not known. The general concern with standardized tests is that they are biased against children of both minority and low-income backgrounds (Washington & Craig 1992). It is possible that race/ethnic academic assessment differentials may reflect significant differences in educational training, knowledge, and exposure with test format and content (Sternberg & Kaufman 1998). Aside from issues related to the quality of test data, another concern is the need to more precisely account for racial and ethnic effects on test scores, by including more precise measures of income and other contextual factors that may influence cognitive development (Doucette-Gates, Brooks-Gunn & Chase-Lansdale 1998; McLoyd 1998; McLoyd & Ceballo 1998).

In this study, we use the Peabody Picture Vocabulary Test-Revised (PPVT-R) to assess children's language development. Several studies show that the PPVT-R has high reliability and construct validity, and it is considered an excellent indicator of verbal intelligence and scholastic aptitude across childhood (Baker et al. 1993). Because the test does not rely on reading or writing, it is considered appropriate for use with economically disadvantaged and immigrant children, who may have difficulty with verbal fluency (Chase-Lansdale et al. 1991). In addition, in order to further reduce cultural bias, the test can be administered in Spanish to children who prefer this version. However, analyses using 1986 data from the National Longitudinal Survey of Youth Child Data (the data set used in this study) show substantial racial/ethnic differences in PPVT-R scores, as have other studies using small samples, which were not accounted for by maternal education, family income, and a variety of other factors (Baker et al. 1993).

Studies to determine whether racial and ethnic differences in PPVT-R scores represent a systematic bias are limited. However, several studies suggest that it is an adequate measure for minority children. For example, Bracken & Prasse (1984) reviewed research on the reliability and validity of PPVT-R, including three studies using samples of white, black, and Mexican American children. The studies

revealed concurrent validity of the PPVT-R and the PPVT and equivalency between alternate forms of the PPVT-R. Similarly, Argulewicz and Abel (1984) found minimal bias in the content of the PPVT-R for a sample of white and Mexican American children. Specifically, they found no pattern of test item difficulty between the two groups. Finally, a study of black and white adolescents did not reveal racial bias in the PPVT-R in terms of predicting performance in the Wechsler Intelligence Scale for Children-Revised (WISC-R) (Halpin, Simpson & Martin 1990).

Hypotheses

Do Mexican American children maintain the benefits of their favorable birth outcomes through their early childhood years, in terms of their development, in comparison to children of other racial and ethnic groups? If not, what factors mediate the effects of birth outcomes on child development? We pay particular attention to factors that do not operate in the expected negative direction initially in predicting birth outcomes for Mexican Americans: socioeconomic status, health care use, and generational status.

We expect that, despite the relative weight advantage at birth, normal birth weight Mexican American children will have less than optimal developmental outcomes due to their low socioeconomic status, limited access to health care resources, and the high proportion of immigrants in their population. First, we expect that the limited socioeconomic resources of Mexican American mothers during pregnancy will predominate after the birth of their child. Low SES is expected to have a negative impact on the child's development, despite their birth weight advantage, because Mexican American children are less likely to have access to material resources and to other opportunities for developmental enrichment. Thus, poor socioeconomic status and a less developmentally enriching home environment are expected to have a negative effect on child development in ways that may not be as important for birth outcomes. We measure these factors using length of time that the child has lived in poverty, mother's education, and home environment (i.e., the level of cognitive stimulation and emotional support provided to the child in the home).

Second, we expect that Mexican American children will not receive adequate health care, due to the pattern of limited use of prenatal care by Mexican American mothers. The lack of health care is expected to have a detrimental effect on development, because possible problems may not be screened for or addressed. Finally, generation is expected to have the opposite effect on child development outcomes than it does on birth outcomes. We expect that more recent generations of children will not do as well for several reasons, including lesser availability of resources among immigrant parents given their limited social and economic integration. Cultural mechanisms (i.e., healthy life style and family support) alone,

presumed to help explain the birth weight advantage of Mexican American mothers, are not expected to support salutary child development outcomes in the context of low SES and health care usage among poor children. Thus, families of more recent generations of Mexican Americans are not expected to fair as positively, despite their closer ties to Mexican culture.

Methods

DATA

This study uses the National Longitudinal Survey of Youth Child Data (NLSY-CD) (1986, 1988, 1990, 1992, 1994, 1996), which contains longitudinal information on child development outcomes several years beyond birth, maternal health variables, and other information on the mother's pregnancy (Baker et al. 1993; Center for Human Resource Research 1998). The NLSY-CD is a survey originating from the National Longitudinal Survey of Youth (NLSY), a nationally representative annual survey of 12,686 youth aged 14-21 that was initiated in 1979. The 1986, 1988, 1990, 1992, 1994, and 1996 waves of the NLSY included the administration of a set of assessment tools to the children of the female respondents. The assessments measure the cognitive, socioemotional, and psychological aspects of the child's development. NLSY data on the mothers is linked with the NLSY Child Data.

The NLSY contains an oversample of blacks and Hispanics, making it possible to conduct analyses of these minority populations. The size of the Hispanic subsample, however, does not allow for analysis of the smaller Hispanic subgroups. For this reason, the focus of the study will be on a comparative analysis between Mexican Americans, non-Hispanic blacks, and non-Hispanic whites. Although based on an oversample of blacks and Hispanics, the data are not weighted because data pooling across years is used (see Center for Human Resource Research 1998:24-26).

In this study we conduct a comparative analysis of Mexican American ($N = 488$), non-Hispanic black ($N = 1135$), and non-Hispanic white children ($N = 2,087$) ages 3 and 4, pooled from the 1986, 1988, 1990, 1992, 1994, and 1996 waves, for a total sample of 3,710 children. The youngest age group for whom PPVT-R scores are available were selected for the analysis for several reasons. First, this early stage of child development is a critical period in the life cycle (Piaget 1950; Piaget & Paul 1954), with children developing the ability to use symbols at these ages. In addition, the effects of birth weight on development are thought to be strong at this age (Hack, Klein & Taylor 1995). Finally, because the children are at a preschool age, inequalities in access to public school resources will not play a role at this point.

STATISTICAL ANALYSES

The analysis is divided into three parts. First, we provide descriptive data on race/ethnicity and birth weight differentials in PPVT-R scores and descriptive statistics for all covariates to be included in regression analyses by race and ethnicity. An ordinary least squares (OLS) regression analysis of development scores as a function of birth weight and several social risk factors is then conducted for the total sample in order to evaluate the relative explanatory power of each set of predictor variables with respect to the observed race/ethnic differentials. The third part of the analysis involves separate regression analyses for each race/ethnic group, in order to investigate the relative significance of each set of predictor variables within each group.

MEASURES

Child development, the dependent variable, is measured using the Peabody Picture Vocabulary Test-Revised. Specifically, "the PPVT-R measures an individual's receptive (hearing) vocabulary for Standard American English and provides, at the same time, a quick estimate of verbal ability and scholastic aptitude" (Dunn & Dunn 1981:2). The PPVT-R has been used extensively in studies linking child development to a variety of circumstances surrounding birth, such as mother's age, pregnancy wantedness, and poverty (Geronimus, Korenman & Hillemeir 1994; Guo & Harris 2000; Joyce, Kaestner & Korenman 2000; Luster et al. 2000). Interviewers administer the test by saying a word and asking the child to point to the one picture (out of four) that best portrays the meaning of the word.

Our primary independent variable, low birth weight, is a dummy variable coded 1 if the mother reported that her child weighed less than 2500 grams (5.5 pounds) at birth and 0 otherwise. Gestational age, although associated with birth weight, is not included in the analysis because it is not considered a reliable measure in this data set (Baker et al. 1993). Five sets of independent variables that we expect to influence child development include: race and ethnicity, socioeconomic characteristics, generational status, household context, and health care utilization. Socioeconomic characteristics include the child's length of time in poverty from the time of birth (never, one year only, or more than one year) and mother's education (less than high school, high school graduate, some college, or college graduate). Child's generation indicates whether he or she is the child of an immigrant mother or father (second generation), is third generation, or is fourth (or subsequent) generation. Controls are also included for sex and age of the child. The age variable is based on attained months of age, and the child's age was rounded up to the next month.

Three variables are used to measure household characteristics. Quality of the home environment is measured using the Home Observation for Measurement of the Environment-Short Form (HOME-SF). The HOME-SF is a shorter version

of the HOME inventory developed by Caldwell and Bradley (1984), the most widely used measure of home environment (Baker et al. 1993). Several studies have demonstrated high reliability and construct validity of both the original HOME and HOME-SF instruments (Baker et al. 1993). In addition, several recent studies have shown that the HOME-SF score is strongly related to measures of cognitive development, including PPVT-R scores, for whites, blacks, and Hispanics (Baker et al. 1993; Sugland et al. 1995).

The characteristics of the home environment covered by this scale are the age-specific quality of the cognitive stimulation and emotional support provided by the child's family (Baker et al. 1993). The HOME-SF includes both maternal reports and interviewer observations of the household. For children between the ages of 3 and 6 years old, mothers are asked to report on how often they read stories to their children; the availability of books, magazines, and children's tapes in the home; whether they are teaching children about numbers, the alphabet, colors, and shapes or sizes; their disciplining style; the number of family outings, including educational outings; the child's television viewing habits; and the child's relationship with a father-figure. The interviewer observation of the home environment includes the verbal communication between the mother and the child, the types of physical contact (e.g., hugs, kisses, slapping, and spanking) initiated by the mother, the mother's reactions to the child's behavior (e.g., provided toys or restricted activities), and the home's physical environment (safety, cleanliness, clutter, and the extent to which it is dark or perceptually monotonous). A total raw score for the HOME-SF, ranging from 20 to 260 points, is derived by summing recorded individual item scores. For the purposes of this study, the HOME-SF score is dichotomized, indicating whether the score fell within the first (i.e., lowest) quartile.

In addition to the HOME-SF scale, we include three additional household characteristics, number of siblings, marital status of the mother (married, never married, or divorced, separated, or widowed), and age of mother at birth (a dummy variable coded 1 if she was younger than 20 and 0 otherwise). Health care utilization is operationalized into three variables: availability of private insurance or Medicaid coverage (versus no insurance coverage), and number of well-child and sick-child visits in the first year of life. Well-child visits are regularly scheduled visits to a health professional for the purpose of monitoring the child's growth and development and administering vaccinations.

Results

DESCRIPTIVE STATISTICS

Table 1 presents descriptive statistics for our two main variables of interest by race/ethnicity: birth weight and PPVT-R scores. In our sample, 11.18% of non-Hispanic black children and 7.20% of Mexican American children were born with low birth

TABLE 1: Race/Ethnicity and Birthweight Differentials in PPVT Scores among 3- and 4-Year-Olds

	Percent Low Birth Weight	Mean PPVT	N
Race/ethnicity			
Non-Hispanic white	5.98 ^a	44.56 ^{a, b}	2087
Non-Hispanic black	11.18 ^{b, c}	13.31 ^{b, c}	1135
Mexican American	7.20 ^a	18.58 ^{a, c}	488
Birth weight			
Low birth weight	—	23.72 ^d	287
Normal birth weight	—	32.24	3423
Total	7.74	31.58	3710

Notes: Percentage or mean is significantly ($p < .05$) different from (a) non-Hispanic blacks, (b) Mexican Americans, (c) non-Hispanic whites, and (d) normal birth weight children.

weights (< 2,500 grams), compared to only 5.98% of non-Hispanic white children. Ancillary analyses indicates that while the difference between Mexican American and non-Hispanic black children is statistically significant, Mexican American children did not differ significantly from their non-Hispanic white counterparts with respect to birth weight, which is consistent with other literature on the epidemiologic paradox (e.g., Cramer 1995; Frisbie, Forbes & Hummer 1998). On the PPVT-R assessment, non-Hispanic black children and Mexican American children scored 31.25 and 25.95 points lower, on average, than non-Hispanic white children, respectively. Lastly, children of low birth weight scored on average 8.52 points less than normal birth weight children on the PPVT-R. As with race/ethnic differentials, birth weight differences on PPVT-R scores were statistically significant at the $p < .01$ level.

These differentials set up the primary research question associated with this inquiry. Specifically, if birth weight is related to PPVT-R scores and Mexican American children are not significantly different from non-Hispanic white children with respect to birth outcomes, why do Mexican American children not appear to benefit from this apparent birth weight advantage in terms of their PPVT-R scores in early childhood? In other words, *to what extent does the apparent birth weight parity with non-Hispanic whites matter among Mexican American children with respect to child development?* And if birth weight is not an important predictor of development among Mexican American children, what social and material resources are important for their developmental outcomes?

To help answer these questions, we employ two sets of complementary multivariate models that enable us to assess the relative impact of low birth weight status on race/ethnic differentials in the PPVT-R assessment. We first present a

TABLE 2: Descriptive Statistics for All Covariates in Multivariate Analyses by Race/Ethnicity

	Total	Non-Hispanic White	Non-Hispanic Black	Mexican- American
Sex of child (male)	50.22	50.60	49.07	51.23
Female	49.78	49.40	50.93	48.77
Age of child (months)	48.40	48.27	48.45	48.88
Poverty (never in poverty) ^{a,b,c}	58.74	72.12	37.18	51.65
One year only ^b	12.37	11.45	13.13	14.54
More than one year ^{a,b,c}	28.89	16.43	49.69	33.81
Education (less than high school) ^c	37.30	37.24	35.25	42.22
High school graduate ^{a,b}	41.90	43.74	40.00	38.93
Some college ^{a,c}	20.80	19.02	24.75	18.85
College graduate ^{a,b}	13.00	17.68	7.75	5.32
Generation (4th +) ^{b,c}	89.52	94.25	97.54	50.62
Second ^{b,c}	4.50	1.58	1.67	23.56
Third ^{a,b,c}	5.98	4.17	0.79	25.82
HOME (2d-4th quartile) ^{a,b,c}	75.63	86.78	58.33	68.24
Low HOME (1st q) ^{a,b,c}	24.37	13.22	41.67	31.76
Number of siblings ^{a,b,c}	2.30	2.17	2.43	2.58
Marital status (married) ^{a,c}	67.04	80.94	39.04	72.76
Never married ^{a,b,c}	16.93	5.03	41.67	10.24
Divorced, sep., widowed ^a	16.03	14.03	19.29	17.00
Age of mother at birth (≥ 20) ^{a,b}	86.20	88.60	83.18	82.99
Less than 20 years ^{a,b}	13.80	11.40	16.82	17.01
Health insurance (private) ^{a,b,c}	64.44	75.19	49.61	53.07
No coverage ^{a,b,c}	13.67	13.22	10.22	23.57
Medicaid ^{a,b,c}	21.89	11.59	40.17	23.36
Health care visits				
Well visits ^{a,c}	3.04	3.22	2.89	2.58
Sick visits ^{a,b,c}	1.67	1.87	1.29	1.68
N	3710	2087	1135	488

Notes: Cell entries represent mean values for continuous and percentages for categorical variables. Difference is statistically significant between: (a) non-Hispanic white and non-Hispanic black; (b) Mexican American and non-Hispanic white; (c) Mexican American and non-Hispanic black.

series of nested (stepwise) OLS regression models (see Table 3). Controlling for the child's gender and age, we first estimate the baseline race/ethnic relationship and then compare these values to similar models with the addition of new explanatory variables in order to estimate the explanatory power of each set of predictors with respect to our race/ethnic coefficients. We then estimate separate

models for non-Hispanic white, non-Hispanic black, and Mexican American children and compare standardized regression coefficients within each race/ethnic group in order to assess the relative importance of birth weight vis-à-vis our other variables of interest (see Table 4).

Table 2 first presents total and race/ethnic specific descriptive statistics for all variables used in multivariate analyses. There are several key differences worth noting among our sample of non-Hispanic white, non-Hispanic black, and Mexican American children. First, there are wide socioeconomic differences with respect to race/ethnicity. Although the proportion of children who have been poor for just one year is similar for all groups, 34% of Mexican American children and 50% of black children have been poor for more than one year in comparison to only 16% of non-Hispanic white children. Indeed, the vast majority (72%) of non-Hispanic white children in our sample have never lived in poverty. Similarly, non-Hispanic black and Mexican American women are significantly disadvantaged compared to non-Hispanic white women with respect to educational attainment. In particular, whereas nearly 18% of non-Hispanic white women have a college education or higher, only 8% of non-Hispanic black women and 5% of Mexican American women have acquired that same educational level.

Second, while there are very few non-Hispanic black or white mothers who are recent immigrants, fully 24% of Mexican American children have at least one parent who is an immigrant and another 26% are grandchildren of immigrants. Third, race/ethnic differentials in the HOME-SF score suggest that Mexican American and black children live in homes with less cognitive and emotional support available to them than do white children. In particular, whereas only 13% of white children had HOME-SF scores in the lowest quartile, 42% of black children and 32% of Mexican American children live in households with relatively low HOME-SF scores. Fourth, Mexican American children are significantly different from non-Hispanic white children across three important sociodemographic variables: they are more likely to have (1) more siblings; (2) mothers who have never been married; and (3) mothers who gave birth before their twentieth birthday. Finally, there are marked differences across race/ethnicity with respect to our health care variables. Specifically, Mexican American children are much more likely to be uninsured than either non-Hispanic black or non-Hispanic white children and black and Mexican American mothers are notably more likely to be recipients of Medicaid. Moreover, non-Hispanic white children have, on average, more well and sick visits to the doctor than both black and Mexican American children, suggesting greater access to medical resources among white families.

MULTIVARIATE ANALYSES

Table 3 presents unstandardized and standardized parameter estimates for a series of nested OLS regression models. The goal of these models is to demonstrate the relative explanatory power of five different sets of variables with respect to PPVT-

TABLE 3: OLS Regression Coefficients: The Relative Impact of Low Birth Weight and Other Covariates on PPVT Scores among 3- and 4-Year-Olds

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Race/ethnicity							
Non-Hisp. black	-31.28***	-31.05***	-26.17***	-31.37***	-24.32***	-27.78***	-24.26/-38***
Mex. American	-25.92***	-25.86***	-20.94***	-23.43***	-21.42***	-23.16***	-16.06/-18***
Female	2.98***	3.03***	2.84***	2.97***	2.45**	2.92***	2.44/.04**
Age (months)	-.06	-.00	-.06	-.06	-.04	-.06	-.06/-01
Birthweight ($\geq 2,500$ g.)							
< 2,500		-4.39**					-1.57/-01
Poverty (never in pov.)							
One year only			-5.89***				-4.54/-05***
More than one year			-9.35***				-5.69/-09***
Education (less high school)							
High school graduate			7.08***				4.99/.08***
Some college			10.91***				8.01/.11***
College graduate +			22.75***				19.52/.22***
Generation (fourth +)							
Second				-8.49***			-8.64/-06***
Third				-2.90			-5.37/-04**
HOME (2d-4th quartile)							
Low HOME (1st quartile)						-12.56***	-8.65/-13***
Number of siblings						-3.64***	-2.34/-09***

TABLE 3: OLS Regression Coefficients: The Relative Impact of Low Birth Weight and Other Covariates on PPVT Scores among 3- and 4-Year-Olds (Continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Marital status (married)							
Never married						-5.13***	-.56/-.01
Divorced, separated, widowed						-5.36***	-.56/-.01
Age of mother (≥ 20)							
Less than 20 years					-4.48***		-.57/-.01
Health insurance (private)							
No coverage						-9.03***	-1.46/-.02
Medicaid						-12.83***	-.64/-.01
Health care visits							
Well visits (number)						.55**	.24/.02
Sick visits (number)						-.13	-.19/-.02†
Constant	46.15	46.63	39.20	46.25	56.46	46.99	47.17
R ²	.25	.25	.34	.25	.32	.29	.37
Percentage explained		Birth Weight	SES	Generation	Household	Health	Full Model
Non-Hispanic black compared to non-Hispanic white		.73	16.34	.00	22.25	11.20	22.44
Mexican American compared to non-Hispanic white		.21	19.20	9.61	17.35	10.67	38.06

Note: Reference category for all variables in parentheses. Cell entries in model 7 represent unstandardized and standardized regression coefficients. All other model estimates are unstandardized OLS regression estimates.

† p < .10 * p < .05 ** p < .01 *** p < .001

R scores: (1) birth weight; (2) socioeconomic characteristics; (3) generational status; (4) household characteristics; and (5) health care factors. We first present a baseline model for race/ethnicity, controlling for the child's sex and age at the time of assessment. We then enter each set of variables independently and evaluate the change in the race/ethnic differentials. In this way, we estimate the amount of the race/ethnic differentials that are due, in part, to each set of covariates.

Our baseline results (model 1) reiterate that, on average, non-Hispanic black children and Mexican American children score 31 and 26 percentile points lower than non-Hispanic white children, respectively. Model 2 estimates the net effect of low birth weight (<2,500 grams) on PPVT-R scores, net of race/ethnicity, sex, and age. According to this model, children of low birth weight score 4.39 points lower, on average, than their normal birth weight peers. More importantly, this model allows us to answer one of our primary research questions: *to what extent do race/ethnic patterns of birth weight explain race/ethnic differences in PPVT-R scores?* In brief, the answer is not very much. The coefficients associated with both race/ethnic indicators (non-Hispanic blacks and Mexican Americans, relative to non-Hispanic whites) were reduced by less than 1%, as indicated at the bottom of the table. These numbers represent the percentage decrease in the magnitude of the race/ethnic coefficient.

Controls for socioeconomic status (model 3) operate in the expected direction. Specifically, children from households with total family income below the poverty line for at least one year scored significantly lower than children from households never below the official poverty line, with a longer duration in poverty associated with lower scores. Similarly, mother's education is strongly related to children's PPVT-R scores such that each successive level of educational attainment is positively and monotonically related to increased PPVT-R scores. It is also important to note that while controls for low birth weight did not significantly reduce either race/ethnic coefficient, socioeconomic controls reduced the estimated race/ethnic coefficients for non-Hispanic black and Mexican American by 16 and 19%, respectively.

Model 4 presents estimates for generation status. Children of immigrants score, on average, 8.5 points lower than children of native-born mothers. And while controls for generational status do not significantly affect the non-Hispanic black coefficient, as might be expected given the small percentage of foreign-born black children in the sample, these controls reduced the estimated net effect for Mexican Americans by nearly 10%. Again, as with socioeconomic status, generation appears to account for a much larger share of Mexican American children's PPVT-R disparity with non-Hispanic whites than does birth weight. Likewise, all four measures of household characteristics (model 5) were significantly related to PPVT-R assessment scores in the anticipated direction. In particular, PPVT-R scores are positively related to high HOME-SF scores, low numbers of siblings, married parents, and mothers older than 20. Controls for household characteristics also

had a significant effect on both race/ethnic coefficients — reducing the effect of non-Hispanic black by 22% and reducing the effect of Mexican American by 17%.

Health care factors also operate in the expected directions (model 6). Specifically, children with no health insurance, as well as children whose primary health insurance is Medicaid, scored significantly lower than children whose primary health insurer is a private insurer. Similarly, children with frequent well visits, indicating a salubrious relationship with health care facilities, scored significantly better than children with little to no routine and interactions with health care networks. These health care controls reduced the estimated net effect of each race/ethnic coefficient by roughly 11%.

Model 7 presents the full model estimates for all covariates; three important findings emerge from this model. First, although low birth weight is still negatively related to PPVT-R scores, this relationship is not statistically significant. Second, while both race/ethnicity variables were significantly reduced in magnitude, 78% of the non-Hispanic black differential with non-Hispanic whites and 62% of the Mexican American with non-Hispanic whites remain unexplained. Third, it is possible to estimate the relative significance of each predictor by comparing the magnitude of their standardized effects. According to these results, low birth weight (standardized $\beta = -.01$) is among the least important predictors of PPVT-R scores. Equally important is that the standardized betas for both race/ethnicity predictors remain substantially larger than the effects of the other covariates. It is also notable that a number of variables that tap the socioeconomic well-being of parents, including poverty, educational attainment, and HOME-SF, exhibit sizable effects on PPVT-R in this multivariate model.

RACE/ETHNIC-SPECIFIC MODELS

Another way to examine the relative significance of each set of predictor variables is to perform a separate set of analyses for each race/ethnic group and then to compare standardized regression coefficients within each group. Table 4 presents full model estimates for non-Hispanic white, non-Hispanic black, and Mexican American children. As with the full model findings from the race/ethnic mixed sample (Table 3, model 7), these results suggest that low birth weight is among the least important predictors of child developmental outcomes among 3- and 4-year-olds. Without exception, the most important predictor of PPVT-R scores appears to be mother's education. Indeed, for non-Hispanic white children, not only is the net effect of birth weight not statistically significant, the standardized effect associated with college education (std. $\beta = .28$) is about 14 times stronger than the effect of low birth weight (std. $\beta = -.02$). In addition to mother's education, the low HOME-SF variable is a strong predictor of PPVT-R scores for white (std. $\beta = -.17$), black (std. $\beta = -.15$), and Mexican American children (std. $\beta = -.10$). Lastly, it is important to note the race/ethnic differences associated with the generation variables.

TABLE 4: OLS Regression Coefficients — The Relative Impact of Low Birth Weight and Other Covariates on PPVT Scores among 3- and 4-Year-Olds by Race/Ethnicity

	Non-Hispanic White		Non-Hispanic Black		Mexican American	
	b	Std. b	b	Std. b	b	Std. b
Sex of child (male)	3.77	.07	1.31	.03	-1.90	-.04
Female						
Age of child at assessment	.01	.00	-.18	-.07*	-.10	-.03
Birthweight (≥ 2,500 g.)						
< 2,500 g.	-1.88	-0.02	-2.19	-.04	-.33	-.00
Poverty (never in poverty)						
One year only	-6.28	-.07**	.28	.00	-3.51	-.05
More than 1 year	-6.89	.09**	-2.06	-.05	-6.63	-.14*
Education (less than high school)						
High school graduate	6.74	.12***	3.19	.08*	3.14	.07
Some college	10.36	.14***	4.10	.09*	9.25	.16***
College graduate	21.29	.28***	11.53	.16***	20.99	.21***
Generation (4th +)						
Second	-19.97	-.09***	10.38	.07*	-9.74	-.18***
Third	-.77	-.01	12.18	.06*	-10.51	-.20***
HOME (2d-4th quartile)						
Low HOME (1st. quartile)	-14.17	-.17***	-5.86	-.15***	-4.96	-.10*
Number of siblings	-4.00	-.13***	-1.48	-.09**	-1.30	-.07
Marital status (married)						
Never married	-3.87	-.03	.10	.00	1.08	.01
Divorced, sep., widowed	-.78	-.01	1.54	.03	-2.30	-.04
Age of mother at birth (≥ 20)						
Less than 20 years	-2.43	-.03	.64	.01	4.20	.07

TABLE 4: OLS Regression Coefficients — The Relative Impact of Low Birth Weight and Other Covariates on PPVT Scores among 3- and 4- Year-Olds by Race/Ethnicity (Continued)

	Non-Hispanic White		Non-Hispanic Black		Mexican American	
	b	Std. b	b	Std. b	b	Std. b
Health insurance (private)						
No coverage	−1.19	−.01	−1.96	−.03	−.12	.00
Medicaid	−1.16	−.01	−2.26	−.06	−.61	−.01
Health care visits						
Well visits	.40	.03	−.10	−.01	.50	.05
Sick visits	−.26	−.03†	−.12	−.02	.07	.01
Intercept	46.41		26.56		31.44	
R ²	.19		.14		.21	

Note: Reference category for all variables in brackets.

† p < .10 * p < .05 ** p < .01 *** p < .001

Whereas non-Hispanic white and Mexican American children and grandchildren of immigrants scored lower than those with higher (beyond third generation) generational status, among non-Hispanic blacks, children of recent immigrants actually fare better than children of parents of fourth generation and higher.¹

Discussion

A centrally important part of the U.S. health agenda for the twenty-first century is to understand and eliminate disparities across racial and ethnic groups. Indeed, the National Institute of Child Health and Human Development (NICHD) recently released a strategic plan for better identifying, understanding, and eliminating a host of differences over the next decade (NICHD 2000), one portion of which specifically targets school readiness and cognitive development. In the present study, we attempted to expand upon the understanding of Mexican American developmental disparities vis-à-vis non-Hispanic whites by focusing on the long-term effects of birth outcomes, social factors, and health care variables on the language development of preschool children for these three race/ethnic groups. We used pooled waves of the National Longitudinal Survey of Youth Child Data to conduct this analysis which, to our knowledge, is the only data set available to date that can approach the issues we analyze here in any depth at the national level.

The results of our analyses showed that, although Mexican American infants have rather favorable birth outcomes in spite of their mothers' disadvantaged social and economic characteristics, their PPVT development scores lagged well behind those of non-Hispanic whites and were quite similar to those of African American children. To illustrate, the rate of low birth weight among Mexican American and non-Hispanic white children differed by only about 1% (i.e., 7.2% for Mexican American children versus 6.0% for non-Hispanic whites), while the disparity in average PPVT score between these two groups was about 26 points on a 100 point scale. Importantly, birth weight — despite being a well-known predictor of cognitive development and academic achievement (Conley & Bennett 2000; Hack, Klein & Taylor 1995; Strauss 2000) — explained virtually none of the race/ethnic variance in development scores.

Outside of birth weight, other factors did help to account for race/ethnic differences in development scores. Children of immigrant parents and grandparents scored less well on the PPVT than children of native-born parents, helping to account for the lower scores among Mexican American children. Interestingly, although there were relatively few children of foreign-born blacks in the sample (about 2% of black children), their scores were significantly higher than black children of native-born parents. These differing findings for immigrant/generation status support recent research showing that the selective process of migration may be quite different across race/ethnic groups (Portes & Rumbaut 1996). Bi-national

data (e.g., Landale, Oropesa & Gorman 1999) would help to best sort out how migration selectivity influences the health and development of children of immigrant parents vis-à-vis their native-born counterparts.

Our socioeconomic and household resource variables also helped to explain the developmental gaps across race/ethnic populations. The maternal education and home score variables each displayed strong effects on development in the most complete statistical model — both for the overall population and for each race/ethnic group. Maternal education, in particular, was an especially powerful predictor for Mexican Americans and whites. Children who lived in poverty — especially those who did so for more than one year — also exhibited lower developmental scores than their more economically advantaged counterparts (also see Guo & Harris 2000). Such effects demonstrate that basic socioeconomic improvements for both Mexican Americans and blacks will help close the developmental gaps with whites exhibited in these data. In contrast, the health insurance and health care visit variables displayed no net effects on developmental scores. In some ways, this is not surprising since the fairly limited contact that most parents have with the formal health care system most likely precludes highly effective screening and intervention procedures for their children's developmental problems, especially at such young ages.

Clearly, other variables would be important in further understanding race/ethnic gaps in childhood developmental scores. Differences in the quality of day care programs and other early educational opportunities (such as the availability and use of public television programs), for example, are one such set of factors (Huston 1995). Differing levels of childhood health problems across race/ethnic groups that impede development are another (Guo & Harris 2000). Race/ethnic differences in parental time availability for children, including father involvement, may be another (Bianchi 2000). Further, it is important to remember that childhood test scores — like many other measured outcomes in social science research — may not fully capture developmental differences across race/ethnic groups. Nevertheless, in a recent edited volume that documents and examines racial trends in a number of important areas of life in America, Ferguson (2001:348) writes "Whether we like it or not, test scores, and the skills they measure, matter." To the extent that language development at preschool age influences future success in school and later intellectual development, race/ethnic differences in such a key area of life matter indeed.

Further research is needed to determine what long-lasting effects health at birth has for child development and health outcomes, particularly among minority group children in disadvantaged socioeconomic circumstances. For example, among Mexican Americans, do mothers' characteristics *during pregnancy* that do not seem to negatively affect birth weight (e.g., the limited use of prenatal care) have a detrimental effect on the subsequent health outcomes of their children? More importantly, we need to investigate whether the relatively favorable Mexican

American birth weight rates have an effect on other areas of child health and development, and, if not, what factors serve to counteract that initial advantage. In addition, research will need to examine the effects of birth outcomes and social risk factors on the child health and development of other Hispanic subgroups, given that prior research shows significant differences in birth weight and social circumstances across the Mexican American, Puerto Rican, Cuban, and Central/South American subpopulations (Albrecht et al. 1996; Bean & Tienda 1987; Frisbie, Forbes & Hummer 1998; Fuentes-Afflick & Lurie 1997).

To conclude, the epidemiologic paradox literature has for almost two decades pointed to the relatively favorable health of Mexican American infants, especially when considering the overall risky demographic and socioeconomic profile of their parents. At the same time, very little is known about how this relatively good health at birth protects later health and facilitates optimum development throughout childhood (Guendelman 1998). This article finds that both Mexican American and black children are disadvantaged at very early ages in terms of one key indicator of child development, language ability, even when controlling for differences in health at the time of birth. While we were unable to fully explain the development score gaps across population groups, our analyses did demonstrate that socioeconomic and household resources were important in understanding the differences across groups. For Mexican American children, having foreign-born parents or grandparents was also a disadvantage. Thus, to move toward the nationwide goal of eliminating health and development disparities across population groups, aggressive steps will need to be taken to assure that children — even at very young ages — are provided with the necessary resources to excel in the challenging climate of the twenty-first century.

Note

1. In ancillary analyses (results not shown), we replicated all multivariate models but changed our dependent variable to a binary outcome. This dummy variable was coded 1 if a child scored below the 16th percentile of the PPVT-R and 0 otherwise. This threshold has been established by previous research as an appropriate operationalization of poor performance on the PPVT-R (Washington & Craig 1992). We found no significant differences in the relative effects of each set of predictor variables and no changes to our substantive findings. For the purpose of parsimony and in an effort to preserve the variability associated with the PPVT-R distribution, we present output from our OLS regression models only.

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Book Reviews

Visions of Charity: Volunteer Workers and Moral Community.

By Rebecca Anne Allahyari. University of California Press, 2000. 285 pp. Cloth, \$45.00; paper, \$17.95.

Reviewer: CHERYL CARPENTER, *St. Norbert College*

Visions of Charity: Volunteer Workers and Moral Community is a comparative ethnography of the volunteer experience at two daily meal programs for the urban poor in Sacramento, California. While each program provided meals for the poor, they defined, justified, and practiced this work in markedly different ways and with differing consequences for volunteers. Rebecca Ann Allahyari presents a compelling and scholarly analysis of the construction of moral communities and moral selves in the Catholic Worker-inspired Loaves & Fishes and Salvation Army meal programs she studied.

Allahyari's selection of research sites and roles maximized her exposure to a diverse group of volunteers, differing sources of volunteer involvement, and contrasting organizational views of caring for the poor. As an overt participant observer, Allahyari worked as a volunteer beside other committed volunteers at each setting, enabling her to collect rich observational and interview data. Loaves and Fishes volunteers were middle-class, white, predominantly female, and worked in teams recruited mainly through churches and synagogues. Salvation Army kitchen volunteers came from Salvation Army shelters or the Alternative Sentencing program and were mainly working-class men of color. One-time volunteers also worked at each program, usually for holiday meals.

Allahyari's historically grounded overview of Catholic Worker and Salvationist principles lays a solid foundation for understanding the visions of charity volunteers encountered when they joined the Loaves & Fishes and Salvation Army communities.

Defined as "moral rhetorics about caring for the poor," the visions of charity upheld at Loaves & Fishes and the Salvation Army differed significantly. Allahyari demonstrates how staff at Loaves & Fishes advocated and strove to practice the Catholic Worker ideal of personalist hospitality, which meant attending to "the dignity of the poor by steadfastly meeting their entitlement to food and shelter."

On the other hand, the Salvation Army meal program, following its Salvationist roots and influenced by the tenets of Alcoholics Anonymous, emphasized the need for the poor to alter their behavior. Promoting “disciplined self-help” emphasizing “social control and behavior modification,” the Salvation Army “worked with local government to reward the honor of those individuals who demonstrate their willingness to work.”

The sophistication of Allahyari’s examination of the social foundations of moral community shines in her attention to how practical problems faced by charity staff members affected organizational practices of visions of charity. Her vivid description and analysis of holiday fund raising and volunteer coordination shows how meeting needs for money and volunteers challenged strict adherence to organizational moral ideals.

Allahyari’s notable comparison of the moral selving of committed volunteers at Loaves & Fishes and the Salvation Army shows in stark contrast how organizational and emotional cultures shaped moral selving of volunteers. As moral entrepreneurs, Salvation Army and Loaves & Fishes staff members formally and informally socialized volunteers into their moral communities. In these ideological contexts, Allahyari argues, volunteers found important resources for the social-psychological and emotional processes of “moral selving,” which she conceptualizes as “the work of creating oneself as a more virtuous, and often more spiritual, person.” Allahyari shows the multiple and complex ways that volunteers combined the visions of charity learned through their volunteer work with other moral rhetorics and experiences in their lives to construct a moral self.

Allahyari ends her book with an interesting discussion of the politics of charity. Her application of her theory of moral community and moral selving to address charges that volunteerism hinders fundamental social change is particularly intriguing. She maintains that charity organizations with politically progressive visions are more likely to present possibilities for volunteers to see work for social change as part of creating a more moral self. This argument raises many new questions, providing fresh material for future research and debate.

Visions of Charity is rooted in solid qualitative research and fully informed by a diverse body of relevant sociological and social psychological theory and empirical studies. It is a significant contribution to the sociology of charity, social welfare, and volunteerism, noteworthy for its attention to the fundamental and interacting processes of constructing moral community and moral selving in charity and volunteer work.

Geography and Social Movements: Comparing Anti-Nuclear Activism in the Boston Area.

By Byron A. Miller. University of Minnesota Press, 2000. 215 pp. Paper, \$21.95.

Reviewer: KURT SCHOCK, Rutgers University

For quite some time American sociologists have drawn on geographic insights in subfields as diverse as demography, organizational ecology, urban ecology, economic sociology, environmental sociology, and international development. However, the study of social movements, argues Byron A. Miller, lacks an explicitly geographic focus and would benefit from geographic insights as well. Drawing on geographically informed social theorists such as Castells, Harvey, Giddens, and especially Lefebvre, Byron A. Miller argues for more geographically sensitive accounts of social movements.

After convincingly arguing in chapter 1 (with Deborah G. Martin) that most social movement scholarship is aspatial, Miller provides us with exemplary literature reviews of social movement theories from a geographically informed perspective in chapter 2. The author synthesizes elements of resource mobilization, political process, and new social movement theories, infuses them with the geographical imagination, and proposes a geographic model of social movements. The model draws on Lefebvre to reconceptualize Habermas's abstract theory of social movements into more concrete terms.

In chapters 3 to 6, Miller presents empirical chapters on the arms race-focused branch of antinuclear activism in three Boston suburbs during the 1980s: Lexington, Waltham, and Cambridge. In particular, four social movement organizations are analyzed: Lexington Committee for a Nuclear Weapons Freeze, Waltham Concerned Citizens, Cambridge SANE/Freeze, and Boston Mobilization for Survival (Cambridge members). Miller applies his geographic perspective to explain variations in the organization, mobilization, strategies, and impacts of antinuclear activity in the Boston area. In addition to secondary sources, the author draws on archival records, survey data, and in-depth interviewing of movement participants.

The three central orienting concepts of the study are space, place, and scale. Miller attempts to demonstrate how social movement processes are constituted through space, place, and scale, and how that affects how they interact, articulate, and play out. Space is used in the Habermasian sense of material space (system) and symbolic space (lifeworld). Place refers to how discrete settings influence social activity and thought. Scale refers to both different levels (from local to global) and

to how social processes are represented as being a function of a given level. In his analysis, Miller shows how these concepts both influence and shed light on social movement dynamics.

With regard to space, Miller maintains that a fundamental problem for social movements is the disjuncture between the geographies of system and lifeworld spaces. In Cambridge, for example, the nuclear freeze movement did not adequately consider material relations, thus the campaign to pass a binding referendum to stop all nuclear weapon-related activity was defeated by a coalition of defense industry actors. With regard to place, for example, the author illustrates how the framing of peace issues was more diverse in working-class Waltham, taking up issues with a broad working-class appeal such as housing. By contrast, in upper-middle-class Lexington, the framing of issues was based in symbolic lifeworld terms, with less consideration of material relations. With regard to scale, for example, the author rightly claims that the overwhelming focus of research on political opportunities has been on the national scale, with relatively little consideration of local, state, or international opportunities. Miller illustrates how local political opportunities varied across the three cities, ranging from most favorable in Cambridge to unfavorable in Waltham. Moreover, Miller indicates how scale variations in political opportunities may lead movements to “jump scales,” whereby their focus is shifted from one level to another (e.g., from national to local).

While not a criticism of Miller, who defines *space*, *place*, and *scale*, and uses them consistently throughout his study, there are potential problems with the *collective* use of these concepts given their diverse use and meaning. In fact, Miller points to these problems stating, “A definitive contemporary definition of ‘space’ is virtually impossible.” The same goes for *place* and *scale*. If space, place, and scale mean whatever a particular scholar wants them to mean, then a geographic turn in social movement scholarship may be self-limiting. If, however, there is a serious conceptual discussion of space, place, and scale, leading to more precise and consistent definitions and uses, then their contributions to social movement scholarship can be substantial. This would seem to be especially so given that the most recent generation of social movement scholarship has emphasized the context of social movements. Continuing in this direction, Miller eloquently argues for the importance of specifying how the geographic context shapes social movements as well the historical and political context.

In sum, Miller presents a persuasive argument for the synthesis of social and geographic perspectives, and his contribution to the bridging of disciplinary boundaries between geography and the study of social movements should be welcomed and commended.

The Culture of Power in Serbia: Nationalism and the Destruction of Alternatives. By Eric D. Gordy. Pennsylvania State University Press 1999. 230 pp. Cloth, \$58.50; paper, \$17.95.

Reviewer: GAIL Kligman, *University of California, Los Angeles*

On June 28, 2001, Slobodan Milosevic, former president of Yugoslavia, was transported to the the Hague for eventual prosecution by the international war crimes tribunal. This dramatic turn in Milosevic's fortunes was preceded by more than a decade in which he presided over four wars, hundreds of thousands of dead and displaced, increasing international isolation and subsequent NATO bombing of his country. Eric Gordy's book, *The Culture of Power in Serbia: Nationalism and the Destruction of Alternatives*, examines the means by which Slobodan Milosevic and his regime exercised power throughout those years. Gordy argues that the regime engaged not only in wars in Croatia and Bosnia-Herzegovina (and later, Kosovo), but also in a "silent war" in Serbia itself, a war of the "state against society." (Gordy thus implicitly distinguishes what happened in Serbia from the Central European civil society movements — against the state — of the 1980s). The regime's "legitimacy" was not predicated on widespread consent nor was its longevity due primarily to ongoing nationalist mobilization. Instead, Gordy contends, the regime systematically destroyed alternatives to its rule.

The book thus focuses on the regime's permeation of everyday life, especially in Belgrade, through its control of the public sphere, notably "information, expression, sociability and popular culture." First, Gordy briefly reviews the general political context of Serbian "nationalist authoritarianism" and the breakup of the former Yugoslavia. He notes continuities and discontinuities between Milosevic's regime and the previous Communist regime, differences between Serbs living in urban and rural areas, and the role of nationalist discourse in regime support.

Having set out the parameters of his study, Gordy then dissects the process by which the regime maintained itself through the destruction of alternative perspectives and practices, all the while proclaiming its own democratic rule. To this end, the regime resorted to familiar tactics. To mobilize sentiment, it engaged in conspiratorial accusations against diverse enemies (e.g. intellectuals, foreigners). To justify repression, it harnessed and perverted electoral and legal authority for its own interests. To control the dissemination of information, it harassed Belgrade's independent media; to contain cultural expression, it attacked youth culture and its rock 'n roll music, instead promoting Serbian "neofolk." To limit social critique, the regime used economic chaos (e.g., hyperinflation of the early 1990s; later, international economic sanctions) to its advantage. Extreme shortage economies constrain sociability and do not customarily foment radical resistance.

As a now historical case study, Gordy's book provides much useful information. Gordy devotes substantive chapters to the destruction of political, information, and musical alternatives, as well as to sociability. In each, he discusses geographically (urban-rural) and generationally differentiated responses to the regime. *The Culture of Power in Serbia* is more descriptively rich than analytically compelling. Generally, it is an uneven work that would have benefited from closer editorial guidance. For example, the chapter on music cultures is considerably more developed and novel than the others and brings a welcome dimension to the study of authoritarian (nationalist) regimes. Yet it is unclear why there is no discussion of other expressive cultural forms such as theater, art, or literature. Stylistically, there are striking redundancies, arbitrary usage of Serbian words, and so on. More unsatisfying, Gordy does not situate his theoretical argument in the broader context of the region's processes of regime transformation, whether "velvet" or violent. As such, Gordy's case study may seem too specialized for many readers.

Nonetheless, *The Culture of Power in Serbia* itself presents an alternative political sociological/cultural reading of the Milosevic regime's tenacity that contributes to the interdisciplinary literature on the role of the "state against society," and of civil society against the state. In the end, after thirteen long years, the power of culture in Serbia seems to have prevailed over Milosevic's culture of power.

Children of the Land: Adversity and Success in Rural America.

By Glen H. Elder Jr. and Rand D. Conger. University of Chicago Press, 2000. 408 pp. Cloth, \$35.00.

Reviewer: HOWARD L. SACKS, *Kenyon College, Gambier*

Studies of rural life have largely vanished from the sociological landscape. Contemporary scholarship is chiefly relegated to agricultural programs at state universities and meetings of the Rural Sociological Society. Yet current headlines on topics from food safety to urban sprawl suggest the relevance of what takes place in rural America to us all. In *Children of the Land*, Glen H. Elder Jr. and Rand D. Conger provide a finely detailed portrait of rural life and demonstrate clearly the fundamental significance of rural study for understanding issues central to the discipline.

Elder and Conger examine the social bases of identity: How do family, school, church, and the broader associations comprising community life shape adolescents' aspirations and competence? Drawing on the life-course model that Elder first employed in his seminal work, *Children of the Great Depression* (1974), the authors explore the linkages between social structure and personality at a moment of dramatic historical change. In the 1980s, American agriculture experienced an economic crisis that threatened the very survival of family farming and rural

communities. How families faced such adversity determined not only the continuation of their operations but the character of their children.

The authors follow youths in 451 Iowa families from seventh grade through high-school graduation in the years 1989-94, comparing boys and girls from farm and nonfarm backgrounds. Drawing on repeated surveys, interviews, and observation, the study traces the impact of social experiences on adolescent academic and social competence, self-appraisal, and the avoidance of trouble.

Many of the findings demonstrate the positive value of a farming background. Family farming demands that children contribute their productive labor, providing them with a sense of mastery while teaching values of hard work and responsibility that translate into academic success. Boys in particular benefit from close associations with their fathers, who serve as positive role models and offer practical training in a career attractive to their sons. At the same time, girls most often take on additional chores in response to family need. The close proximity of many farm families across generations traditionally has facilitated frequent contact with grandparents, who offer moral guidance and active support of their grandchildren's interests.

Participation in church groups, 4-H, scouting, and extracurricular school activities offers wider social contacts, particularly among adolescents otherwise isolated on the farm. Indeed, farm youth are more often leaders of these groups than their nonfarm counterparts and thus exhibit greater social competence. This high level of civic activity among farm youth mirrors that of their parents, who remain actively involved in all aspects of their children's lives. In homogeneous rural communities, contact with other adults also contributes to a "social redundancy" that reinforces values taught at home and balances the effects of peer pressure that may lead to trouble.

But while a farming background appears to foster adolescent success, the authors avoid romanticizing rural life. Farming is difficult and stressful work, particularly when coupled with the demands of an off-farm job; and many farmers hesitate to encourage their children to pursue agriculture. Moreover, the friction between farmers and nonfarmers as well as newcomers and established residents often constitutes the basis for deep divisions in rural communities. One wonders how long the beneficial patterns found in this study will endure, as many rural communities face either suburbanization or continued economic decline.

It remains to be seen how typical are the experiences of these youth. A host of variables — including topography, crop selection, and ethnicity — differentially affect the cadence of agricultural life across America. An additional issue this study raises is the long-term impact of adolescent socialization: To what extent do patterns laid down in youth define life choices in adulthood, particularly among those adolescents who leave rural environments?

By forcefully demonstrating how a "rural ecology" contributes to a healthy life for children, Elder and Conger provide a welcome corrective to the literature on development, which has focused almost exclusively on metropolitan areas.

Extended family ties, productive work, and active parental involvement in their children's activities provide the social capital necessary for adolescents to make positive decisions and overcome adversity. More broadly, through their careful connection of life choices to life chances in historical context, the authors offer a model of sociological inquiry worthy of emulation.

The Color of Opportunity: Pathways to Family, Welfare, and Work.

By Haya Stier and Marta Tienda. University of Chicago Press, 2001. 289 pp. Cloth, \$32.50.

Reviewer: DEBORAH REED, *Public Policy Institute of California*

Color matters. *The Color of Opportunity* documents the interrelationships between opportunities, outcomes, and group membership using an innovative life-course perspective to establish the cumulative effects of early experiences with poverty, single parents, childbirth, and high school. Based primarily on a survey of parents in Chicago's poor neighborhoods with comparisons to a national urban sample, the study provides convincing evidence of racial and ethnic differences in early life experiences, transitions into family roles, poverty, human capital development, welfare participation, work, and earnings. By studying jointly the topics of family formation, human capital, public assistance, and work, the authors provide an impressively comprehensive view of racial and ethnic realities in urban areas.

In this study, Haya Stier and Marta Tienda address two fundamental questions: whether racial or ethnic group membership restricts opportunities; and whether the behavior of the inner-city poor differs from that of the urban poor. They demonstrate that nonmarital births and withdrawal from high school are routes through which group disparities in childhood disadvantages can persist across generations. They conclude that early life experiences can explain much of the differences in welfare participation and work. They also show that although outcomes tend to be worse in areas with high concentrations of poverty, the behavior of Chicago's inner-city poor does not differ substantially from that of the urban poor nationally.

Yet the study also indicates that statistical analysis of relationships between opportunities, experiences, and outcomes leaves a role for race and ethnicity that cannot be explained by observable individual differences in life experiences and human capital. In the chapter on families, for example, we learn that even after controlling for all observable differences, Hispanics were less likely to complete high school and that blacks were more likely to have nonmarital births. Likewise, Puerto Rican and black parents were less likely to work and more likely than similar whites and Mexicans to receive welfare. The authors ascribe these remaining differences to residential segregation and discrimination. With the exception of a few citations of other studies, this study provides little convincing evidence to

explain the importance of group membership once the observable differences have been accounted for.

The study's research design has several advantages for investigating the role of group membership in defining opportunity. The Urban Poverty and Family Life Survey (UPFLS) and its supplement, the Social Opportunity Survey, include retrospective life histories with information on early family experiences, detailed information on work and welfare histories, open-ended responses that allow further interpretation of statistical results, and a sample design that permits analysis of whites, blacks, Mexicans, and Puerto Ricans. For the purpose of drawing conclusions about opportunity, however, the data survey is flawed in ways that are not fully acknowledged in the text. Because many successful people have left poor neighborhoods in which they were raised, any survey that interviews only the people who remain cannot provide an unbiased sense of high school completion, nonmarital births, and other outcomes for the population raised in those neighborhoods. However, interpretation problems arising from this self-selection are diminished by the similarities in the results between the Chicago sample and the national urban sample.

As acknowledged in the final pages, much has changed since the period covered by this study, 1970 to 1990. Recent economic expansions have increased economic opportunity differentially for whites, blacks, and Hispanics. Welfare reform has changed the nature of program participation, especially in relation to duration and work incentives. And immigration, particularly from Mexico and Central America, continues to increase the population of low-skilled Hispanics both in Chicago and nationally. Nevertheless, this study offers a valuable picture of racial and ethnic realities in the late twentieth century. As times change, the book will provide a critical benchmark against which progress can be judged.

Errata

Dawn T. Robinson's article, "Getting a Laugh: Gender, Status, and Humor in Task Discussions," (80[1]:123-58) contained incorrect symbols in the bottom paragraph on page 133. The paragraph, with correct symbols, is reprinted below.

The Weibull model specifies that the rate of transitions is a power function of the waiting time (Tuma & Hannan 1984:211). A generalized Weibull model allows for the regression of a vector of measured covariates, β on the log of the waiting time:

$$\log T = -\beta x + \sigma W$$

where σ is a scale factor, and W is the extreme-value distribution (Kalbfleisch & Prentice 1980:31-2). The scale factor σ is inversely related to time dependence ρ (Hannan 1989); ρ tells us about the character of the time dependence in the data. If $\rho < 1$, then the rate is a monotonic decreasing function of the waiting time; if $\rho = 1$, then the rate is independent of waiting time, and if $\rho > 1$, then the rate is a monotonic increasing function of the waiting time.

Social Forces regrets these errors.

Also, many of the endnote indicators are incorrect in the article. They should be as follows:

- Pg. 130: Indicator 1 should be 3.
- Pg. 131: Indicator 2 should be 4.
- Pg. 132: Indicators 3-4 should be 5-6.
- Pg. 133: Indicators 1-2 should be 7-8.
- Pg. 136: Indicators 1-2 should be 9-10.
- Pg. 138: Indicator 1 should be 11.
- Pg. 139: Indicators 2-3 should be 12-13.
- Pg. 140: Indicator 4 should be 14.
- Pg. 141: Indicators 5-7 should be 15-17.
- Pg. 142: Indicators 8-11 should be 18-21.

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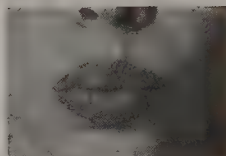
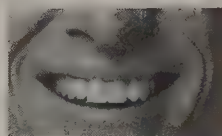
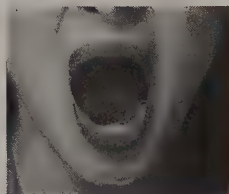
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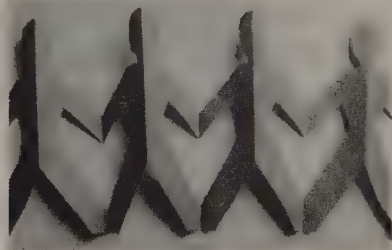
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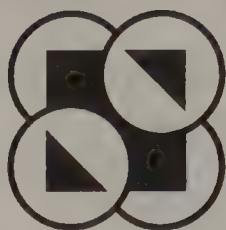
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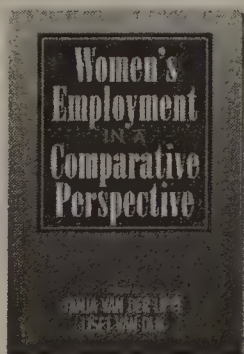
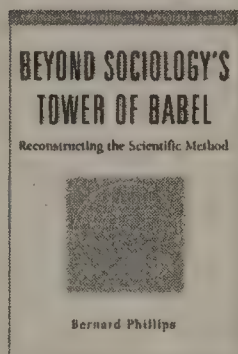
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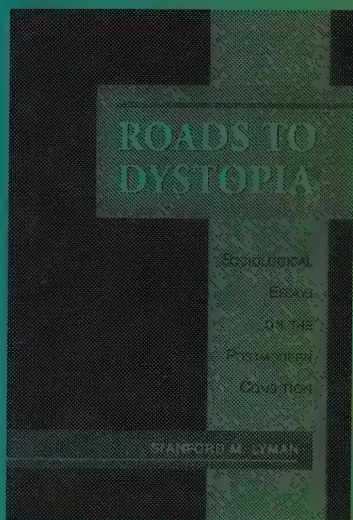
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Resurrecting the Red: Pete Seeger and the Purification of Difficult Reputations*

MINNA BROMBERG, *Northwestern University*

GARY ALAN FINE, *Northwestern University*

Abstract

Reputational change can occur both posthumously and within a person's lifetime. Championed by reputational entrepreneurs, reputations emerge from competitive fields of interpretive possibilities. The purification of Pete Seeger's image, from vilified Communist to national hero, lets us study both reputational change and the relationship between art and politics. An objectivist model suggests that reputations simply reflect truth. An ideological model claims that Seeger's redemption is shaped by a biased media. Neither sufficiently explains the competitive nature of reputational politics. Our constructionist model takes into account both the role of reputational entrepreneurs and the structural constraints they face. We chart Seeger's reputation through four historical periods: recognition among his peers on the Left (1940s), ruin in the McCarthy period (1950–62), renown among sympathetic subcultures (1960s), and institutionalization as a cultural icon. While it has clear advantages, institutionalization can also have a dampening effect on an artist's oppositional potency.

What makes commies so cuddly? What is it about them that gives so many people the warm-and-fuzzies? I've never felt the rosy glow that Bolsheviks seem to evoke in others. . . . There must be something lovable about those who promote the most evil doctrine since slavery, since smart people are forever fawning over and snuggling up to them. I just can't imagine what it is. Wherever communists rule, after all, the results are poverty, misery, refugees, and death. Like Nazis, you might say. Only — nobody celebrates Nazis anymore. Why are commies different? (Jacoby 1995:15)

In November 1994 Arlo Guthrie, son of the late folk singer Woody Guthrie, stood on the stage of the Kennedy Center in Washington and looked out at a house packed with politicians and other luminaries. Pete Seeger had been named a Kennedy

* The authors would like to thank Wendy Griswold for her comments on an earlier version of this article. Direct correspondence to Minna Bromberg, Northwestern University, 1810 Chicago Ave., Evanston IL 60208. E-mail: minna@minnabromberg.com or g-fine@northwestern.edu.

Center Honoree. Guthrie, a presenter, recalled that when there was a move afoot to make his father's song, "This Land Is Your Land," the national anthem (McCarthy 1989), Seeger had vehemently opposed the idea. Guthrie remembered Seeger arguing that the worst thing you could do to a song was to make it official. Then Guthrie looked out into the audience and said, "I wonder what we're going to do now that you're official" (Pareles 1994:C11).

Pete Seeger's installation as an "official" cultural icon raises questions about the dynamic qualities of reputations, reminding us that reputations can change dramatically, that states institutionalize reputations (even of those who do not embrace the state), and that the institutionalization of a reputation can affect how an individual is perceived. The case of Pete Seeger provides a powerful instance of the institutional establishment of a reputation in the face of potential objections. This case helps us understand reputational politics in general, while simultaneously providing a case study of the linkages between radical politics and the arts in the latter half of the twentieth century. Specifically, Pete Seeger's institutional enshrinement is striking when contrasted with his vilification as a political subversive during the McCarthy era, most notably in his 1955 appearance as an "unfriendly witness" before the House Un-American Activities Committee (HUAC) and subsequent conviction for contempt. How could a figure who at one stage of his career was seen by many as traitorous, and by all as controversial, come to be seen as so beloved that the state would invest its considerable symbolic resources in honoring him? In turn, the case of Pete Seeger, alive and active during his reputation's purification, raises questions about the effects of the new reputation on how Seeger was treated.

Though every case has its own historical and political peculiarities, the case of Pete Seeger is not unique, other members of the "hard Left," such as Paul Robeson, Carl Sandburg, Aaron Copland, Woody Guthrie, Arthur Miller, and Studs Terkel have similarly entered into the pantheon of American cultural heroes. That such figures, "beloved Stalinists," are now embraced, largely without active controversy, allows us to examine how reputations can be purified.¹

Broadly speaking, three contrasting models — objectivist, ideological, and constructivist — present alternative views for understanding how reputations are established (Fine 1996). An objectivist (or "realist") model suggests that Pete Seeger was as admirable as he is perceived today. He was a commendable human being. Put more starkly, Seeger's "communist" politics really represent "American" values. As Bob Dylan stated in a letter to *Broadside* magazine, Seeger is "truly a saint" (Filene 2000:211), and another observer speaks of Seeger's "moral ebullience" (Cox 1998:22). In other words, reputations can reflect reality.

An ideological (or "bias") model, in contrast, posits that those who construct reputations — media and cultural elites — are fundamentally biased (Weisberg 1999:156). There is no truth, only the interests of a single, powerful group of reputation makers. In this interpretation, Seeger was made a cultural icon because

his politics agreed with those who control collective memory. The facts of his life were irrelevant; what mattered were his supporters' desires. From this perspective, his enshrinement is a result of what Ronald Radosh (2000:36) calls "a virtual academic industry dedicated to the rehabilitation of the Communist Party of the United States." Had Seeger been aligned with the Right, such a societal embrace would be unthinkable.

There is some truth in each of these two views. Pete Seeger, surely no angel, fought for some causes that are widely admired today, even by conservatives. He demonstrated for civil rights and for environmental clean-up. Yet this admiration requires forgetting the more controversial side of Seeger's reputation: his support for the foreign policy of the Stalinist Soviet Union into, at least, the 1950s, including supporting the Nazi-Soviet pact and his lack of condemnation of the Soviet invasions of Hungary and Czechoslovakia. This veneration also requires embracing Seeger's homey self-presentation and ignoring any troubling aspects of his character. In turn, we should take into account that cultural elites in America do tend to be more sympathetic to the Left than to the Right. Artists and critics, including journalists and social scientists, tend to be more liberal than most Americans. In addition, Seeger received his honor from a Democratic administration.

Yet to suggest that the strong version of either view explains Seeger's honors is not fully persuasive. Seeger is loved and admired by those who are otherwise conservative, and politicians and journalists on the Right are powerful enough that they could have made Seeger's honor controversial. Given a society of multiple audiences, either an objective or an ideological argument is too simple.

We argue instead for a constructionist approach. Collective memory is constructed and maintained by "reputational entrepreneurs" in a competitive setting, drawing upon historical evidence. In whose interest is it to put forth a claim about a reputation, and how do potential opponents of that claim decide to respond? Seeger's reputational shift from political threat to cultural icon underlines both the malleability of reputations in competitive discursive arenas, as well as limits on this malleability: reputations are constructed, but the construction is limited by a set of recognized facts.

Like other domains of collective memory, reputations are constructed in such a way as to make the past relevant to the present (Halbwachs 1992; Schudson 1992; B. Schwartz 1991). Rather than arising *sui generis* from the facts of an individual's life, reputations connect historical events to shared values. Like any cultural object, reputations can be studied to determine how they are produced and received by multiple audiences against the backdrop of changing social contexts (Griswold 1994).

This malleability can be likened to a process of natural selection (Taylor 1996). Like social problems (Gusfield 1981; Hilgartner & Bosk 1988; Loseke 1999; Schneider 1985), reputations evolve out of a multiplicity of possibilities. This

evolution is not random. Rather, reputations are championed by entrepreneurs (Fine 1996) who operate within “mnemonic communities” (Zerubavel 1996, 1997).

Implicit in Zerubavel’s analysis is that memories (and, hence, reputations) can thrive in some communities — or subcultures — and not in others. Further, shared memories can have distinctive meanings that depend on the group that refers to them. Lang and Lang (1988) distinguish between *recognition* and *renown*. Recognition represents how well a person is known within his or her own “social world” (Barker-Nunn & Fine 1998; Becker 1982). In contrast, renown is measured by how well a person is known outside that specific world. Whereas recognition is defined by a particular community, renown depends on awareness by a multiplicity of communities.

Not only do different mnemonic communities remember different people, they also remember the same person in distinct ways. Divergent reputations can exist simultaneously within different mnemonic communities. Groups compete to control collective memory, and this is subject to dynamic change over time (Olick & Robbins 1998; Wagner-Pacifiçi 1996; Wagner-Pacifiçi & Schwartz 1991).

Who gains the upper hand in this competition depends on two factors. First, there is a generational factor; events are recalled in light of generational imprinting. Second, within generations, the cultural capital of reputational entrepreneurs is vital.

Schuman and Scott (1989) provide empirical backing to Mannheim’s theory of the “ideological distinctiveness” of generations (359). They argue that people give increased importance to events that happened during their late adolescence and early adulthood (Swidler & Arditì 1994:309). However, events that are important to a given generation can nonetheless be significant in multiple ways. A single meaning need not occur, although over time consensus tends to develop (Wagner-Pacifiçi & Schwartz 1991). In the case of a contested reputation, the response of those at the prime age for generational imprinting will be particularly crucial, especially if the person’s most active supporters are influential in crafting historical memory.

When a reputation is controversial, “society segments or splits the image of the actor or event, thereby permitting the simultaneous preservation of positive and negative characteristics” (Ducharme & Fine 1995:1311). A split image in the case of artists is one constructed between art and politics. To what extent should an artist be defined by his or her politics?

In the case of “Nazi artists,” politics can lead to a spoiled reputation (Lang & Lang 1996). Conversely, artists can benefit from having their work linked to a popular political idea. Artists “whose art can be made to serve a broader cause, such as defining an emerging identity or dramatizing new aspirations, are more likely to be granted a prominent place in the collective memory” (Lang & Lang 1988:100). For example, some female artists have been rescued from relative obscurity through the efforts of feminists.

When a group victimizes or rejects an artist on political grounds, this can sometimes heighten the victim's renown, if the rejecting group is no longer warmly held in collective memory. Lang and Lang (1996) use the example of artists suppressed by the Nazis being honored after the fall of the Third Reich. Having one's works destroyed and deemed "degenerate" can become a badge of honor. This can happen not only to artists, but to martyred political figures as well. John Brown's execution by the slave state of Virginia helped to legitimate his political stance (Fine 1999).

Having a positive reputation affects how a person is seen; some of an individual's actions become inappropriate, given his or her reputation, and even when "inappropriate" actions are taken, they may not be "seen" by the person's audiences. Such behaviors do not fit, and so may be ignored. There is a cost for possessing a strong reputation. Having one is particularly problematic when the reputation has been built on an oppositional stance. For example, being commemorated as "official" can limit one's radical role. Sandage (1993) uses Martin Luther King Jr.'s reputation to illustrate some of the dangers of "becoming official." Being adopted — posthumously in the case of King — as a "consensus hero" lessens a figure's efficacy as a symbol of opposition: "The icon that belongs to all can be the weapon of no faction in particular" (166). King's radicalism, like Seeger's, has been largely erased. In Seeger's case, even though he is still "alive and kicking," he is often perceived as a consensus hero.

Of course, when formerly oppositional figures are reconstructed as consensus heroes, their reputations are not created *de novo*. Structural conditions constrain how the past can be made relevant in the present. Rather than shedding the deviant label altogether, reputational entrepreneurs reshape the deviant label — and the facts behind it — as a badge of honor. This echoes B. Schwartz's (1991) synthesis of Halbwachs's view of memory as "constructed" with the more Durkheimian idea that the past outlives itself.

We argue that Pete Seeger's reputation is constructed through a competitive process involving a multiplicity of reputational entrepreneurs. Out of a field of possible reputations, the one that Seeger now bears is that of cultural icon. He has outlived his enemies and his controversial causes; potential critics have chosen to ignore him; and elite members of the younger generation have embraced him. Rather than remaining a stain on his record or being forgotten altogether, the controversy surrounding him has been transformed into a badge of honor, a mark of courage for those who care about his reputation. Those who might legitimately object are no longer invested in debating that controversial past. Becoming official both protects his reputation from attacks and constrains those who wish to see him as an oppositional figure. To understand this process, we focus on the creation of Seeger's reputation in four different periods of reputation building: recognition, ruin, renown, and institutionalization.

Pete

Pete Seeger was born in 1919 to musicologist Charles Seeger and violinist Constance Seeger.² Both sides of his family reflected a legacy of Yankee intellectual pacifism. When his political views forced Charles to leave his faculty position at Berkeley, the family moved back East. Educated in elite boarding schools from the age of four, Pete spent his summers at his paternal grandparents' wooded estate in Patterson, New York. As a young adult, Seeger dropped out of Harvard at nineteen; he moved to New York City, where he aspired to a career in journalism. Soon he discovered that his forte was playing the banjo. After he was introduced to Woody Guthrie in 1940, the two traveled the country playing for gas money. By December of that year, they returned to New York where, along with Lee Hays and Millard Lampell, they founded the Almanac Singers, a loosely organized musical group with close ties to left-wing social movements. During this time Seeger officially joined the Communist Party of the U.S. (CPUSA). It was only gradually that Seeger disengaged from the party, long after many had recognized the dangers of Stalinism. Even during the Hitler-Stalin pact, Seeger continued to support the party line vocally, singing antiwar songs critical of President Franklin D. Roosevelt until the Nazi invasion of the Soviet Union in June 1941. Seeger later commented to one journalist, "With the failures of the Soviet government, I started drifting away in the 1950s, and when the tanks rolled into Prague in 1968 that was pretty much it" (Grow 1994:3B; see also Dunaway 1981:148; Seeger 1997:238).

Shortly thereafter Seeger was drafted. Upon returning from the service, he became a founding member of the musical group, the Weavers. A much more polished group than the Almanac Singers, the Weavers seemed poised to combine leftist politics with popular success. However, in 1950, at the height of their success, with "Goodnight Irene" topping the charts, the group came under investigation by the FBI and the McCarran committee. In 1952, Harvey Matusow³ testified before HUAC that three of the four Weavers were Communists. At that point the group began to be blacklisted, and by 1953, it had disbanded. Seeger was called to testify before HUAC in 1955 during hearings on alleged Communist infiltration of the New York entertainment industry (Gould 1955:1). He refused to answer the committee's questions, "rejecting the whole line of inquiry as 'improper' and 'immoral'" (Bracker 1955:6). He claimed that his refusal to testify was protected by the First Amendment, rather than relying on the Fifth Amendment's guarantee of protection from self-incrimination, which would have protected him from prosecution but would also have suggested that he had something to hide. Seeger's tactic had previously led to prison sentences for the Hollywood Ten, a group of Communist screenwriters (Ceplair & Englund 1983). The anti-Communist concerns of potential sponsors and promoters ensured that most mainstream avenues for professional success were effectively blocked.

Seeger was cited on ten counts of contempt of Congress in 1956, but the legal process dragged on until 1961, when he was finally convicted and sentenced to a year and a day in prison. However, in 1962, with Seeger having served just a few hours of his sentence, the U.S. Court of Appeals overturned his conviction because of problems with the language of the indictment.

Unable to make a living through conventional pop music, Seeger supported his family by playing at summer camps and college campuses, smaller audiences than he was used to (Norman 1996:4E). An active participant in the civil rights movement, he introduced Martin Luther King Jr. to his adaptation of the spiritual "We Shall Overcome." A vocal opponent of the Vietnam War, he also sang at antiwar demonstrations. Inspired by Rachel Carson's *Silent Spring* and the growing environmental movement of the late 1960s, he began working on efforts to clean up the Hudson River, traveling up and down the river on the 106-foot sloop *Clearwater*. Although Seeger, now past eighty, has recently slowed his performing schedule, he remains active in social causes.

Recognition, Ruin, Renown, and Institutionalization

How can we explain Seeger's evolving reputation, from subversive to saint? By examining four distinct time periods, we analyze how Seeger's reputation has shifted in light of changing communities of concern. We begin with the establishment of subcultural *recognition* of Seeger among leftist circles in the 1940s. Second, we examine the establishment of the Weavers in late 1949 and their subsequent pop-music prominence, through which Seeger became a known public figure. This fame made him vulnerable to reputational *ruin* in the McCarthy period and the subsequent anti-Communist years (1950–62). During the 1950s Seeger developed a subversive reputation, coupled with a positive strengthening of his subcultural reputation. Third, we explore his *renown*, beginning with the folk revival and the emerging social movements of the 1960s. Expanding his positive reputation required reaching new sympathetic communities. The cultural and political successes of the movements he participated in and the social position of members of these movements strengthened Seeger's reputation. With the dissipation of the Left as a significant political force in the U.S., attacks on Seeger increasingly came from culturally marginal groups, concerned about demonizing a nearly moribund and increasingly irrelevant political movement. Finally, we discuss Seeger's *institutionalization* as a cultural icon culminating in his 1994 Kennedy Center Honor. We ask what happened to those potentially hostile reputational entrepreneurs who could have provided opposition to his honor. Through this event Seeger became, in effect, canonized, and, given his attachment to more socially legitimate movements, increasingly seen as mainstream, despite his own pronouncements.

RECOGNITION

The Almanac Singers at first played widely before communist-affiliated groups and to supportive workers. Their pacificism during the Hitler-Stalin pact led to a critical article in the June 1941 issue of the *Atlantic Monthly* by a Harvard professor, Carl Frederick, provocatively titled "Poison in Our System" (as quoted in Dunaway 1981:86), which accused the group of subversion. They even attracted the attention of the FBI. The group soon disbanded, and public attention turned elsewhere. Seeger was not a sufficiently known presence to achieve a negative reputation, although information on his activities remained in the FBI files.

By singing at political rallies and labor union gatherings during the 1940s (both before and after his military service), Seeger became increasingly well-known among Communist and leftist groups. He was an active, effective, and known member of an integrated, subcultural community, campaigning for "progressive" Henry Wallace and organizing the leftist People's Songs. His social movement activity was directly linked to the Communist Party and had a strong revolutionary (although nonviolent) component.

During the 1940s, Seeger slowly gained recognition among his political peers, but his activities were largely unknown to the wider public. Indeed, in the most dramatic anti-Communist protest of the decade, Seeger was a mere bystander. This event was the attack on the Communist-organized Paul Robeson concert held at Peekskill, New York, in September 1949. Seeger participated in the concert, but Robeson, the Communist-affiliated African American actor and singer, was the target of the protesters' anger. Seeger's stature apparently had not become a serious threat to his potential opponents.

RUIN

By 1950, with the emerging fame of the Weavers, Seeger was developing a public reputation as a popular singer. No longer was his fame confined to leftist activists; he and the other members of the Weavers were reaching a broad national public. This public at first barely knew them as people, but it admired their musical ability. Ultimately it was this fame, not anchored in personal identification, that made the group vulnerable to demonization. For purposes of this analysis, it matters little whether those who promulgated the blacklist were justified. What is central is that Seeger's reputation was susceptible to the attacks of reputational entrepreneurs.

Following the accusations of Seeger's leftist politics in the 1950 publication *Red Channels* and subsequently during the time of his testimony before HUAC, those who were opposed to Seeger's political affiliations were effective in shaping his reputation because his potential defenders were also being attacked. By 1953 the Weavers' record label, Decca, had dropped them (Alarik 1999:D13).

Seeger himself seemed ambivalent about whether he wished to protect his reputation with the wider public at the cost of damaging it within his subgroup. Was public renown more important than subcultural recognition? For instance, when the Weavers were first being investigated, the group's manager, Pete Kameron, urged Seeger to focus on establishing a positive reputation by avoiding singing at leftist events: "A few years from now, you'll be in a position to do anything you want. Right now we've got a real problem to get you cleared and give you a *good* reputation. A brand new one. Your old reputation has got to go" (Dunaway 1981:149). Seeger ultimately rejected this warning, and his decision led to being called to testify before HUAC in 1955.

A central issue involved in the interpretation of activist musicians is whether the reputational audience should interpret their activities as primarily musical or political. If political, is it reasonable to look for "indirect" messages in the lyrics, including in the core values or metaphors of the songs?⁴ The question then became, "Was what Seeger did with an audience musical or political?" (Dunaway 1981:192). Political artists want it both ways: art is a weapon, but it is a weapon that artists should be allowed to carry and to suffer no penalty for doing so. Can singers be both harmless and effective? HUAC and its supporters' answer to this question was "No."

A 1958 court battle over a concert in Detroit exemplifies how the intertwined nature of Seeger's art and politics affected his career. When the Detroit Labor Forum tried to host Seeger in concert at the Institute of Arts auditorium, the Detroit Arts Commission sought to stop the performance on the grounds that the auditorium "may not be rented for programs of a political or controversial nature" (*New York Times* 12 July 1958:19). The Labor Forum countered, somewhat disingenuously, that Seeger was being presented as a singer and not as a political figure. After a legal battle, a U.S. Circuit Court judge eventually ruled that "Seeger would be singing; ergo, he was a singer and the concert could proceed" (Dunaway 1981:192). Such a position was problematic: can a singer never be a political figure? Is music never political speech?

Yet, the standard means of defense was precisely this: the claim that it was "only music." Consider the following endorsement from Carl Sandburg, himself a man of the Left: "I would put Pete Seeger in the first rank of American folk singers. I think he ought to be a free man, roving the American landscape, singing for the audiences who love him — Republican, Democrat, and independents" (*New York Times* 15 March 1961:22).

Communists and fellow travelers defended themselves primarily by framing HUAC's accusations as false or misleading, often attacking the process rather than embracing the charges as true and self-enhancing. Put another way, they did not "proclaim their right to be revolutionaries" (Lipset & Marks 2000). Thus, "the issue was frequently whether a person targeted by McCarthy was in fact a Communist, not whether he or she had a right to be one" (259). Proving the claim was equivalent

to demolishing one's public renown. This made the Left play according to the anti-Communists' rules.

Ultimately the tactics of Seeger and his supporters proved no match for the aftereffects of his appearance before HUAC and the subsequent trial. There were enough Americans for whom these events *mattered*. Reputational ruin caused Seeger to be banned from many mainstream venues either because there were outspoken anti-Communists to oppose him or because venues wished to avoid *potential* controversy. Seeger did not appear on prime-time network television until 1967. In the competitive field of reputational politics, anti-Communists triumphed — for a while. Seeger's reputation had become disjointed: highly positive with a small, intense community, and generally negative with a larger but more diffuse public.

Seeger's ability to make a living as a musician during this period was due in part to his not being famous enough to set off alarms. Seeger later reflected, "If I'd been better known it would have been different. There wasn't an auditorium in the country that would let Paul Robeson sing" (Shipp 1980). At the same time, Seeger had a very positive reputation among a sufficiently large subpopulation to support him, even though he was largely rejected (or forgotten) by those mainstream audiences that had catapulted "Goodnight, Irene" to number 1 on the pop charts. Seeger himself notes, "I didn't pay as high a price as most people think. . . . My kids never went hungry. I just sang for smaller audiences and perhaps that was a good thing. I sang for a sector of the population that didn't think much of the House Un-American Activities Committee" (Norman 1996:4E). Indeed, from singing to his own community, Seeger was earning a six-figure income by 1960 (Filene 2000:202).

RENOWN

The reputational problem to consider is how Seeger's positive reputation expanded while his negative reputation contracted. The explanation involves generational change coupled with an altered, and diminished, role for opponents of domestic Communism. By winning politically, the anti-Communists faced cultural defeat. By making domestic Communists marginal and irrelevant, they also made their own concerns marginal and irrelevant.

From the late 1950s to the mid-1960s, Americans witnessed a "folk revival" (Cantwell 1996). It was during this period that Seeger's reputation witnessed a generational shift; a new set of reputational players entered the scene, individuals who had been too young to be part of the battles over Communist subversion in the late 1940s and early 1950s.

The backlash that followed Seeger's HUAC testimony caused him in some ways to be forgotten professionally. Ironically, this process of forgetting allowed a younger generation, little interested in the old Left and little concerned about its threat, to

define Seeger in a new way. Seeger was forced underground; he reorganized his career by singing at colleges and reaching a younger generation (Cantwell 1996:271-272) that was ready to adopt figures who would challenge the status quo.

The folk revival involved a selective forgetting of the past. The music of the earlier period could speak to the younger generation in new ways specifically because they were unfamiliar with its more politicized origins. Lieberman (1989) attributes the survival of songs from the earlier People's Songs movement, in which Seeger was a central figure, to the ability of these cultural forms from the heyday of American Communism to outlive the old Left organizations themselves. Cantwell (1996) suggests:

What is most interesting about the revival is not its political affiliations, but the absence of them. . . . Nothing was more tiresome, once the revival was in full swing, than to endure the contributions of some antediluvian communist songster with a bag full of "banker and bosses" union songs, stirring as they must have been in their time. (22)

The meaning of Seeger's music to folk revivalists is unclear, but certainly it did not refer to sectarian leftist politics. However, Seeger's impact was important enough to warrant leftists labeling him the "Karl Marx of the Teenagers" (Dunaway 1981:172).

The termination of Seeger's seventeen-year absence from prime-time television exemplifies this process. The early 1960s' television show "Hootenanny," grounded in the folk revival, which arguably owed much of its popularity to Seeger, decided against having him as a guest when he refused to sign a loyalty oath. Seeger finally did appear on prime-time television in September of 1967. The Smothers Brothers broke the network ban and invited him to appear on their show, only to have CBS censor his song, "Waist Deep in the Big Muddy," because its last verse was seen, and no doubt intended, as a direct attack on President Johnson. While the song starts by describing the plight of a platoon in World War II, the last verse made its reference to Vietnam clear: "Now every time I read the papers/That old feelin' comes on/We're waist deep in the Big Muddy and the big fool said to push on." The event became a cause célèbre, producing a firestorm of protest over the network's "censorship." In February of the following year Seeger was invited back on the show and allowed to sing the entire song. Only one station, in Detroit, cut the last verse.

In the 1970s and 1980s, Seeger's "lovable underdog" image continued to gain ground. The opposition to his political views remained sporadic as his reputation grew. While occasional local protesters recalled Seeger's Cold War notoriety, for most the old Left seemed to be merely a curious historical relic.

Seeger's growing renown is evident as his description in the popular press changes from "folk singer" to "Pete Seeger" without the need for an accompanying description. Eventually, his fame became such that his name could be invoked as a modifier to describe other people. A book reviewer described ecologist Garrett

Hardin as “the Pete Seeger of ecology” in reference to his ability to involve his “audience” in understanding human ecology (Swain 1985:14).

Local controversy continued to spring up occasionally. For example, in 1975 the town fathers of Newburgh, New York were divided about whether to allow Seeger to participate in efforts to save the 276-year-old Balmville Tree. Seeger was scheduled to perform a benefit concert to raise funds and awareness of the tree’s plight, but “some members of the town board . . . charged Mr. Seeger with favoring left-wing causes.” The local school superintendent raised his concerns to the town supervisor: “He may be known for advocating a cleaner Hudson River . . . but he is also a veteran supporter of causes hardly exemplary for young people in our community” (*New York Times* 14 June 1971:27).

During this period, with the virtual disappearance of the Communist Party as a major force within the U.S., Seeger himself became more open about his previous CPUSA affiliations, seeing Communist Party membership as no longer fundamentally discrediting and perhaps as part of a nostalgic past. As one *Washington Post* reporter wrote, “Nowadays, of course, he’s considerably more comfortable saying: ‘I’m a communist,’ though it is hard to tell whether it’s wit or wariness that keeps him from answering [whether] it’s with a big C or a little one. ‘Capitalize all the letters,’ he says” (Allen 1980).

Despite local skirmishes over Seeger’s reputation and its uses, nostalgia is by far the most striking feature of this period (B. Schwartz 1998:65). This backward-looking attitude had the effect of turning Seeger into a living legend, his reputation taking on a “frozen in amber” quality. Interestingly, the time in which he was frozen is the 1960s, not in either of the prior two decades in which he was active as a musician and an activist. Sometimes this nostalgia is framed humorously, as in, “Dust off your love beads, all you peaceniks — there’s a Pete Seeger concert Sunday night” (*Washington Post* 6 Jan. 1978, “Weekend”:5), making clear that the focus of the nostalgia is the audience, not the musician. For example, a different article announcing the same concert reads, “In these self-indulgent Seventies, protest has been relegated to the museums” (Richman 1978:39). The solidification of the 1960s, rather than the 1940s, as Seeger’s decade contributes to the elimination of the public memory of Seeger as “too controversial.”

INSTITUTIONALIZATION

The *Washington Post* described the fall of 1994 as “a season of honors for Pete Seeger” (Trescott 1994). Just weeks after his selection for the Kennedy Center Honors, Seeger was awarded the National Medal of Arts, the highest official accolade for an artist in the U.S. This confluence was noteworthy to the *Washington Post*, which reported that it “suggests that the government today doesn’t share the distaste for his leftist politics that was felt in Washington 40 years ago. Or maybe it’s just that

a generation weaned on his folk anthems is finally in charge" (Trescott 1994:D2). But what happened to Seeger's natural opponents?

The construction and use of Seeger's reputation in this period is taken up by a number of reputational entrepreneurs, including President Clinton, members of Seeger's artistic community, and the right-wing press. Though honored by the president and other official governmental figures, the Kennedy Center Honorees are nominated by performing artists. Each year the Kennedy Center honors five artists for their lifetime contributions to the performing arts. The selection process begins in the spring when the office of George Stevens, the Honors creator and producer, solicits nominations from an Artists' Committee of approximately 200 performing artists. Members of the public can also make suggestions, which sometimes take the form of organized letter-writing campaigns. The center's board of trustees then examines the information and comes to a decision on the year's honorees.

Dottie McCarthy, who works for George Stevens, does not recall any mention of Seeger's politics as part of the board's discussion nor does she remember getting any feedback from the public, either positive or negative, in regard to his politics (D. McCarthy, pers. comm., 29 Aug. 2000). She did mention with some dismay the *Washington Post* headline that described Seeger as "America's Best-Loved Commie" (Fisher 1994), describing it as "a shame" for him to be invited to be honored and then be greeted with this headline by the local newspaper.

The Kennedy Center's own publicity on Seeger cleanses his controversial past (Kennedy Center Honors Website 2001). After identifying Seeger as "arguably the most influential folk artist in the United States," it goes on to claim that his songs "have served as anthems for an entire generation of Americans." The "generation" being referred to is the 1960s generation, seen as Seeger's main point of influence, one that erases the politics of the generation in which Seeger was nurtured. The events of the past are transformed in light of a generational history. The Kennedy Center describes Seeger's pre-World War II Almanac Singers-era compositions as "prounion and antifascist." It goes on to describe the Weavers as following the tradition of the Almanac Singers by "performing at picket lines and union meetings." It also describes them as having "sparked the urban folk song revival of the 1950s and served as the model for the protest songwriters of the following decade." On the Weavers disbanding, the publicity blames McCarthyism and not the politics of the Weavers: "At the height of its popularity, the group was attacked as subversive, and Seeger refused to answer questions about Communist affiliations. The McCarthy-era blacklist kept the Weavers out of concert halls and off television, and the group was forced to disband." The Kennedy Center ends their description by citing Carl Sandburg's appellation, "America's tuning fork," and calling Seeger "the living embodiment of America's traditions in folk music."

One could argue that Seeger's iconic status is simply a function of outlasting his enemies. As early as 1963, fellow Weaver Lee Hays advocated this tactic: "As far

as blacklists are concerned . . . all you have to do is hang around and outlive 'em" ("Togetherness" 1963:95). Additionally, a long life has allowed Seeger to play a role in shaping his own reputation. For example, in *Where Have All the Flowers Gone?: A Musical Autobiography*, he writes, "Today I'll apologize for a number of things, such as thinking that Stalin was simply a 'hard driver' and not a supremely cruel misleader" (Seeger 1997:22). However, it is doubtful that this apology has been particularly widely heard or, after over forty years, deeply felt.

One could also argue, as did the *New York Times* (Pareles 1994), that in the case of the Kennedy Center honors, "For Once, Art Bests Politics." As Seeger phrased it, "They decided to give the award to me for my music and try to ignore my politics" (Pareles 1994:C11). The argument is that Seeger's art is recognized as "excellent" and that this recognition overrides concerns about his political affiliations, past and present.

However, neither of these arguments is fully persuasive. Certainly being alive to present one's own case is helpful (Lang & Lang 1990). However, some reputations are so sticky that even longevity does not change perceptions about them. Likewise, the ability of art to best politics depends on the politics in question. Elia Kazan makes an interesting case for comparison. Kazan was a Kennedy Center Honoree in 1983. The center's biographical information makes no mention whatsoever of Kazan's 1952 testimony before HUAC, in which he "named names." More recently, Kazan was snubbed by many members of the audience at the 1999 Oscars in which he was given an honorary Oscar for lifetime achievement. Many in attendance refused to stand or applaud. We argue that neither a generational explanation, nor one that posits that art has bested politics, is sufficient. Rather, we argue that Seeger's reputation is created and *used* by multiple audiences.

The American public potentially contains a multiplicity of reputational communities. The *Washington Post* article, "America's Best-loved Commie," which discusses Seeger's music, his politics, and the relationship between the two, elicited some of these contrasting views. One letter to the editor states that using the term *commie* denigrates Seeger's "lifetime of musical achievements" ("Two Sides" 1994:G2). The writer is offended and asserts that whoever chose the headline "must have been motivated by a malevolent purpose." On the opposing side, a second writer expresses outrage that Seeger's politics were *not* taken into consideration in deciding whether or not he deserved a Kennedy Center Honor in light of Seeger's "affair with totalitarianism." In particular, the author cites Seeger's support of Ho Chi Minh. Significantly, this letter writer feels the need to defend himself against accusations that he is a McCarthyite, insisting that it is "possible to be a liberal and still be suspicious of a man who had so consistently over so many years sided with some of the worst tyrants in human history." In this view, Seeger's politics warrant not only mention but censure, and no amount of artistic worthiness or the passage of time should override this concern.

Seeger's supporters define McCarthyites as paranoid witch-hunters now (and often even then) fighting a nonexistent enemy. The disappearance of Communism as a global threat makes continuing anti-Communist sentiment seem outdated. Anti-Communists could make the argument that their efforts shortened the Cold War, but McCarthyism has come to be seen mainly as a fruitless "moral panic" (Goode & Ben-Yehudah 1994).

Frequently, Seeger's troubles are discussed as the fault of McCarthyism rather than of Seeger's actual political affiliations or sympathies. The *Washington Post's* framing is typical: "In the 1950's, when Seeger and his group, the Weavers, were shooting song after song onto the charts and performing protest songs at union meetings and nightclubs, the group was accused of being subversive. Ultimately, the group was blacklisted" (Trescott 1994:D2).

In this view, the group is merely producing music, whereas others are making political accusations. One implication is that Seeger's Kennedy Center Honor and National Medal of the Arts are "means of atonement" for his former mistreatment. In this light, President Clinton labeled Seeger as "an inconvenient artist who dared to sing things as he saw them." He described Seeger's television ban for refusing to sign a loyalty oath as "a badge of honor" (Pareles 1994:C11).

The right-wing press used Clinton's description of Seeger as an opportunity to criticize the president. *The National Review* remarked:

President Clinton's post-election "turn to the center" evidently came too late to reverse the invitation to fellow-traveling folk singer Pete Seeger to be a Kennedy Center honoree. The President heaped praise on Seeger as "an inconvenient artist who dared to sing things as he saw them." Clinton did not ask Seeger to sing "The Ballad of John Doe," the anti-war ditty he wrote during the Hitler-Stalin pact (no doubt, to spare him any inconvenience). (*"President Clinton's"* 1994:13)

Even the *National Review* avoids tarring Seeger as a Stalinist, describing him mildly as a "fellow-traveling folk singer," avoiding any taint of McCarthyism.

Yet Clinton's "inconvenient artist" comment did not contradict his "post-election turn to the center," but rather helped him make this turn. Clinton's honoring of Seeger came just in time to give the Left some form of cultural reassurance in a time of structural shift to the right. Clinton's comments on the occasion of Seeger's Kennedy Center Honor lean on the oppositional aspect of Seeger's reputation and serve as a cultural "fake to the left." Here, Clinton uses one aspect of Seeger's reputation to shore up his own appearances with a certain constituency.

THE CONSTRAINTS OF INSTITUTIONALIZATION

Becoming institutionalized also means that one's reputation can become constraining. One disadvantage of popularity is a loss of privacy: "Pete Seeger said he's starting to miss the 'good old days' when he was blacklisted for alleged

Communist sympathies in the early 1950's, 'because then the phone didn't ring every five minutes and I didn't get a bushel of mail every day'" (Holston 1994).

Seeger asserts that his radical reputation once protected him from the constant calls of journalists and the "thousands, not hundreds, *thousands* of pieces of paper" that now clutter his desk (P. Seeger, pers. comm., 18 July 2000). His controversial reputation, in effect, had a gatekeeping function.

The question of whether Seeger has "sold out" is answered by his actions in the wake of his Kennedy Center Honor. Has Seeger's newfound institutional acceptance caused him to compromise his ideals in favor of continued acceptance? This does not seem to be the case, as Seeger demonstrated at an April 2000 appearance at the bicentennial of the Library of Congress. While General Colin Powell sat with other dignitaries on the dais, Seeger decided to sing Country Joe McDonald's "I-Feel-Like-I'm-Fixin'-to-Die Rag (Vietnam Rag)" (Tao Rodriguez-Seeger, pers. comm., 8 Sept. 2000). The darkly humorous anti-Vietnam War song includes the well-known chorus:

And it's one, two, three,
What are we fighting for?
Don't ask me, I don't give a damn,
Next stop is Vietnam;
And it's five, six, seven,
Open up the pearly gates,
Well there ain't no time to wonder why,
Whoopee! we're all gonna die.

The words of the song provide an even sharper criticism. The last biting verse urges parents to "send your boys to Vietnam" so that they can "be the first one on your block/To have your boy come home in a box." Lest this be dismissed as a period piece, acceptable because of its lost relevance, the song has been updated to include the words:

And it's one, two, three,
What are we fighting for?
Don't ask me, 'cause I don't know,
Next stop is Kosovo.

Why do establishment elites applaud Seeger for this behavior and allow him to perform songs that many might view as insulting? It seems that there is no need here to sell out in order to maintain an "official" reputation. Rather, the freezing-in-time of nostalgia seems to take care of Seeger's more problematic expressions. He is not dangerous, because he is not taken seriously. He is not fully heard, free to sing whatever he likes because this saintly old man can hardly be "seriously" proposing rebellion. His reputation traps him.

Living Reputations

Seeger's reputation has changed through five decades, from his near-public ruin in the 1950s to his 1994 season of honors. This case elucidates the possibilities for purifying sullied reputations. Seeger's shift from political deviant to cultural icon lends support to the argument that reputations are radically malleable, even when the figure has not changed dramatically. It highlights important features of reputational work: the importance of multiple audiences in constructing reputations, and the power struggle among reputational entrepreneurs over who gets to shape reputations.

The malleability of reputations is particularly evident when comparing Seeger's redemption to Elia Kazan's fall from grace. While we understand some of the factors in shaping reputations (e.g., the importance of generational shift and cultural capital), reputations remain in part historically unpredictable. No one reading the descriptions of Kazan and Seeger in the press coverage of the 1950s could have mapped out the divergent paths their reputations would take.⁵

We wish to underscore the importance of structural constraints on this malleability. Make what one will of Seeger's politics, he will never be remembered as a conservative. Once his political affiliations are a matter of public knowledge (and public consensus), there are limits on how these affiliations can be discussed. They can be ignored; they can be celebrated; they can be transformed from a mark of Cain to a badge of honor; but they cannot be obliterated (B. Schwartz 1998).

While most studies of reputational change discuss posthumous shifts, we focus on a living reputation. This allows us to see the agency of the actor, limited though it may be, in forging his own reputation and responding to the attempts of other reputational entrepreneurs to do the same. Through interviews with reporters, his own writings, and his own performances, Seeger has had a hand in shaping how others view him, even if in the process his renown and institutionalization prevents others from seeing him as a radical. Audiences do not "hear" Seeger's radicalism and his continued support for oppositional movements. In addition to winning by losing (gaining an acceptable reputation by being on the losing side of the Cold War), we can also see what can be lost in winning. The primary danger of becoming officially accepted is a loss of oppositional potency, at least among large portions of the population.

Pete Seeger's case is instructive in demonstrating the power of reputational change, in demonstrating the choices of political actors to withdraw from a political arena, and in demonstrating that a highly positive reputation may serve to constrain its target by making inconsistent actions invisible. Pete Seeger continues to sing out, but only a few hear the message, most preferring the saint to the revolutionary.

Notes

1. In examining collective memory of a particular historical period, we do not find "beloved Nazis"; even Charles Lindbergh, who was in no way a Nazi sympathizer, is still controversial because of his isolationism and, perhaps, his anti-Semitism. However, certain southern figures from the Civil War era, such as Robert E. Lee, have entered our cultural pantheon (Connelly 1977).
2. Unless otherwise noted, this section draws mainly on Dunaway's (1981) *How Can I Keep from Singing*, considered the standard biography of Seeger. It should be noted that Seeger was not pleased with the work, noting, "I say it's spinach and the hell with it. . . . He makes some good points, in between a couple hundred factual errors" (Seeger 1980:38). The facts cited in this article, however, are generally accepted as accurate, and most are also found in Seeger's own autobiography, *Where Have All the Flowers Gone: A Musical Autobiography* (Seeger 1997).
3. Matusow was later convicted for perjury on other matters, although his claims about the Weavers were largely accurate.
4. This issue also applies to Hollywood screenwriters. A film, ostensibly nonpolitical, can include messages about equality, social justice, and tolerance — all core American values, but also linked to Communist ideology. Indeed, the Communist Party of America demanded that screenwriters support the aims of the party in their work (Ceplair & Englund 1983:234–35; N.L. Schwartz 1982:189–90).
5. Kazan was better known than Seeger at the time of his HUAC testimony; he was described as the "noted director" (Bracker 1955:6). By contrast, Seeger is listed nineteenth out of 22 "impressive" witnesses. He was cited as the "head of a group known as 'The Weavers'" (Trussell 1955:43). Just below him is Lee Hays, described as "another folk song singer."

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Weighing In: Elementary-Age Students and the Debate on Attitudes toward School among Black Students^{*}

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Abstract

Many of the prevailing theories concerning the relatively low academic performance of African American students tend to center on the attitudes of adolescents. Much less research attention has been paid to the attitudes of younger students. As a result, the image of black adolescents — who, like most American adolescents, exhibit oppositional attitudes — has come to represent much of what we know and take for granted about black students as a group. The findings of this study, based on data collected in an ethnographic study of two all-black elementary schools, suggest that black children begin school very much achievement-oriented and engaged with the process of schooling. These findings provide evidence that the school experience plays a significant role in the development of attitudes toward school.

Perhaps the most pressing concern in education today is the persistence of the black-white test score gap. There is no shortage of attention to this topic in the popular or academic press and in the media. For example, in 1998 Jencks and Phillips published an edited volume entitled *The Black-White Test Score Gap*; in November 1999 a daily newspaper in Raleigh, North Carolina, published a weeklong series entitled “Worlds Apart: The Racial Education Gap,” examining the gap in North Carolina schools (Simmons 1999); and in October 1999 PBS explored the topic of the gap in a *Frontline* special, “Secrets of the SAT.” In each of these

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works, attention was paid to the attitudes of black students. This is not surprising. Some of the more influential theories currently proposed to account for the relatively low academic performance of African American students, as well as other minority and working-class students, center on student attitudes. These theories frame particular student attitudes in terms of resistance and cultural opposition and were developed with reference to adolescents — mostly high school students (Fordham & Ogbu 1986; Giroux 1981; McLaren 1989; Willis 1977).¹ Unfortunately, research on adolescents seems to have formed the basis of much of what we know and take for granted about the school-related attitudes of black students as a group.

Little research attention has been focused on the attitudes of elementary-age students. Within sociology, in particular, much of the recent work on student attitudes concentrates on adolescents (Ainsworth-Darnell & Downey 1998; Cook & Ludwig 1998; MacLeod 1987; Mickelson 1990; O'Connor 1999). However, the problem of low academic achievement and underachievement among black and other minority students is not isolated to adolescents. Therefore, if we are considering attitudes as an explanation we must also examine the attitudes of younger students. Currently, we know little about the school-related attitudes of elementary-age black students. Researchers in other fields, such as education and psychology, are more likely than sociologists to focus on attitudes among elementary school students.

This article attempts to remedy this situation and perhaps generate more interest in sociological research on the school-related attitudes of younger students. Perhaps the lack of research on young students explains why research findings from samples of black adolescents have been overgeneralized (though not necessarily by the specific researchers), leaving the impression that an anti-school/anti-achievement disposition is the norm among the wider black student population. The young students in the present study leave a very different impression, and although many come from relatively well-off families, they deserve to have their voices included in this discussion.

The gap in achievement between African Americans and whites is found at all socioeconomic levels (Jencks & Phillips 1998), and the underachievement of middle-class black students has also been attributed to negative school-related attitudes (e.g., see Pattillo-McCoy 1999). In some cases, the achievement gap is largest at the highest socioeconomic levels. For example, a College Board (1999) report presents findings that show the gap in reading scores among twelfth graders to be largest between African American and white students whose parents graduated from college. Moreover, even affluent, top-ranked school districts such as White Plains Public Schools in New York and Chapel Hill–Carrboro City Schools in North Carolina, which have sizable black middle-class student populations, are struggling with the achievement gap. Fifteen such school districts came together in 1999, forming the Minority Student Achievement (MSA) Network, to share information and develop strategies to improve the academic performance of their minority

students. At the first MSA Network conference later that year, Edmund Gordon, professor emeritus of psychology at Yale, named student attitudes and concerns about “acting white” among the issues that had to be addressed in order to improve achievement among minority students (Gordon 1999). The data in the present study speak to those concerns.

These data on elementary-age students cannot directly address findings related to adolescents; however, they do raise important questions concerning those findings. While I will attempt to address those questions, the purpose of this article is to increase the representation of the voices of younger black students in the burgeoning body of sociological literature on black students’ attitudes toward school and to examine the relationship between attitudes toward school and academic performance. Observations from third- and fourth-grade classrooms and in-depth interviews with students emphasize the role of school experiences, particularly achievement outcomes, in the development of school-related attitudes. In addition, the data also provide clues to understanding the scorn and ridicule that high-achieving students sometimes encounter. In the following section, I briefly address popular perceptions of black students’ attitudes toward school before reviewing the research on this topic.

“Oppositional” Peer Culture among Black Students

Most of us, whatever our interest in education, are familiar with a dominant perception of black students as disengaged from school, resistant and oppositional in the classroom, and not valuing education and achievement. In general, this perception is applied to black students as a whole, regardless of socioeconomic background; however, it is sometimes characterized as most pervasive among low-income inner-city African Americans (Fordham & Ogbu 1986; Portes & Zhou 1994). In any case, the perception of black students as negatively disposed to school and achievement remains powerful in the public mind, as evidenced in recent national and regional reports. For example, in a 1999 article in the *Chronicle of Higher Education*, Will Weissert (1999) stated that a recent College Board report attributed the achievement gap between minorities and whites “from kindergarten through college,” in part, “to the overriding opinion within minority communities that achieving academically is acting white.”² James Traub, writing for the *New York Times Magazine* in 2000, made the following concluding remark in an article addressing the inability of schools to right social wrongs such as poverty and inequality: “And prominent black figures have to weigh in against the anti-academic and even oppositional peer culture that [Edmund] Gordon and others say is retarding black progress” (90).

In each case, reference is made to a peer culture among black students in general — with no reference to socioeconomic status variables or age — that

devalues education or academic achievement. Yet recent research findings from data on adolescents contest the anti-academic attitude thesis. Ainsworth-Darnell and Downey (1998) and Cook and Ludwig (1998) found evidence in large-scale surveys that black adolescents do not generally have more negative school-related attitudes than other groups of adolescents. More recent work by Prudence Carter (n.d.) effectively challenges the thesis that low-income black youths equate "acting white" with high academic achievement; her survey findings also reveal that they hold high values regarding educational achievement and job success. The young people in Carter's study overwhelmingly believed that youths like themselves have a chance of making it if they do well in school. The current study builds on these findings.

Research Examining Attitudes toward School

Donna Ford, an educational psychologist, has conducted a number of studies focused on younger black students, usually gifted students. In one study, Ford and Harris (1996) surveyed 148 low-socioeconomic-status fifth- and sixth-grade public school black students between the ages of 9 and 14 on attitudes toward school, teachers, achievement, and peer relations and on perceptions of social issues and of parents' achievement orientation. The students were participants in one of three programs: regular education ($N = 50$), potentially gifted or above average ($N = 50$), and gifted ($N = 48$).

On attitudes toward school, the researchers found little difference between the groups. Ninety-nine percent of the sample disagreed with the statement that school is a waste of time for black students. With the exception of one student in each case, all students reported that getting good grades was important to them and that school was either important or very important. However, statistically significant differences were found regarding attitudes toward academically successful students. Perceptions of gifted students were most positive among gifted students, followed by potentially gifted, then average students. Half of the students reported that other students are teased for academic success, though just over a quarter (27%) reported that they themselves were teased. In addition, only small groups of students agreed that peers rejected them when they made good grades ($N = 38$) or that they had fewer friends when they achieved ($N = 23$). These findings indicate that low-socioeconomic-status black students generally hold positive attitudes toward school, although some high-achieving students experience peer-related problems because of their academic success. The basis of these problems (e.g., why students tease and reject one another for high achievement) was not examined.

In spite of evidence such as Ford and Harris's (1996), the image of an anti-achievement/anti-education ethos among black students, particularly adolescents, remains popular. Perhaps the most influential work on the school-related attitudes

of black students has been that of Signithia Fordham and John Ogbu (1986). In their oft-cited piece, Fordham and Ogbu theorize that black students operate by the rules of an "oppositional culture" that views academic achievement as "white" and therefore to be avoided. Using data from an ethnographic study of a predominantly black inner-city high school, the authors describe how black students consciously underachieved so that they would not betray the black community and would avoid ridicule and ostracism from their black peers. Findings such as these resonate with educators, scholars, and the general public because they are consistent with the popular cultural belief that education is not valued in the black community.

RACIAL DIFFERENCES IN ATTITUDES TOWARD SCHOOL

Apparently, research findings supporting an opposing view have had limited influence on public attitudes about this issue. In fact, the results of a number of studies have shown that black students tend to have more positive school-related attitudes than others. In one such study, a test of Ogbu's "oppositional culture" explanation of the racial achievement gap using national data on sophomores from the National Education Longitudinal Study (NELS), Ainsworth-Darnell and Downey (1998) found that black students reported more pro-school attitudes than whites.³ In general, the results did not support the "oppositional culture" hypothesis. A few findings are particularly noteworthy here. The researchers found that African American students were more likely than whites to report feeling a sense of satisfaction from doing what they were supposed to do in class and to report that education is important to getting a job in the future. They also found that relative to whites, black students were "especially popular" among their peers when they were also perceived as good students.

That black adolescents do not bear an unusually high cost for achieving academically is also supported by the results of Cook and Ludwig's (1998) study. In their analysis, which used the NELS data for more than 17,000 students in public and private schools across the country, the researchers were specifically concerned with Fordham and Ogbu's (1986) "burden of acting white" thesis. Not only did Cook and Ludwig find that there were more social benefits than costs associated with high achievement for black students in the sample, but they also found that black students in predominantly black schools reaped slightly greater social benefits for high academic achievement than black students in predominantly white schools. The researchers also found that when adjusting for family background characteristics, black students cut class less often than whites and spent about the same amount of time on homework as whites. Overall, the findings did not correspond with the claim that black students oppose doing well in school more than other groups.

Similar findings were reported in MacLeod's (1987) ethnographic study of two groups of boys (one predominantly black, one predominantly white) in an inner-city Boston housing project. The black boys in that study had more optimistic attitudes toward school and the future than their white peers; the former were more likely to believe that hard work in school would pay off. Other studies also find little difference in attitudes between African Americans and other groups. In a study of behavior, motivation, and achievement in a racially mixed junior high school, researchers found no significant group differences in responses to a questionnaire assessing student attitudes toward success (Hall et al. 1986). In particular, the study reported that both black and white students valued high grades. However, black students did report slightly higher ratings for the degree to which they would feel proud to earn the highest grade on an exam. African Americans also rated higher than whites on the degree to which they believed their parents would be proud of that achievement. Another study, which examined ethnic differences in school achievement using a sample of 15,000 students from nine high schools, found that black students were just as likely as others to believe that academic success pays off, although they were less likely than others (with the exception of Hispanics) to believe that academic success comes from hard work (Steinberg, Dornbusch & Brown 1992).

The degree of similarity in attitudes toward school among students from different racial and ethnic backgrounds, though, is not necessarily a positive sign. In a later publication, Steinberg (1996) commented on the extent to which American high school students, in general, were "disengaged from the serious business of education" (18). His study of students from "all walks of life" prompted Steinberg (1996) to conclude, "The adolescent peer culture in contemporary America demeans academic success and scorns students who try to do well in school" (19). This more recent publication was based on surveys of more than 20,000 teenagers from a variety of racial and ethnic backgrounds in California and Wisconsin over a three-year period.

MAKING A CASE FOR OTHER VOICES

Despite survey and ethnographic evidence that counters the thesis that black students express more anti-school values than other groups, cases of negative school-related attitudes among black and other minority adolescents are not uncommon. The following example is taken from a study of black and Latino adolescents participating in a tutorial program in South Central Los Angeles: "Sometimes [former friends] laugh at us. They make fun of us. Sometimes they go into [our class] room and they say that they don't want to get it [smart], that they better get out of the room, that maybe it's contagious" (Kaplan 1999:194).⁴

These words capture well the anti-achievement disposition. To be clear, the student making this statement does not share his peers' views. In fact, the majority

of students presented in Kaplan's article, all of whom participated in the tutorial program, held positive attitudes toward school and achievement, primarily because of their participation in the program. The student quoted here is describing the attitudes of students who are not in the tutorial program and the ridiculing with which he and his peers in the program must contend. I use this quote here simply as an illustration of the anti-achievement attitude. Interestingly, however, although this type of attitude is found among other groups of adolescents (Steinberg 1996), it is most often characterized as peculiar to blacks. Again, that this type of attitude exists among blacks — even among younger students — there is no question. For example, Ford and Harris (1996) also reported that over one-third of the students in their sample of fifth and sixth graders claimed that they were accused of acting white for getting good grades.

The problem with this issue of anti-achievement attitudes, and acting white in particular, is twofold. First, anti-achievement attitudes among blacks have been overgeneralized; they are not as widespread as many reports indicate. Second, most interpretations of this problem are off the mark. Tendencies toward disengagement from school and teasing “nerds” are commonplace among all adolescents. However, when black high school students are studied, these tendencies are interpreted culturally and recommendations tend to center on “fixing” black culture. When white students are studied, these same tendencies are interpreted as being characteristic of adolescence (e.g., see Kinney 1993). When studying black students, researchers must be careful to distinguish between a cultural burden of high academic achievement (such as acting white) and a more general burden of high achievement, because there is a difference.⁵ However, the findings from the current study counter the perception of a widespread burden of high achievement among black students — cultural or general — and indicate that the origins of a “burden,” where found, are often less cultural than school-based.

Data and Methods

BACKGROUND ON THE STUDY

The data reported in this article were collected as part of a larger study examining the mechanisms by which the environments created in schools contribute to the production of particular student outcomes (attitudes, behavior, achievement). For the purposes of the study, this examination centered on a black independent school, which I call Alternatives, and an all-black public school, which I call Madison.⁶ Black independent schools are defined here as schools that are founded and run by African Americans for the primary purpose of educating black children. Although Alternatives, like most other black independent schools, is open to all students, it remained exclusively black during my period of observation in the 1996–97 school year.

According to the literature, black independent schools create particular school environments that are characterized by high expectations, the cultivation and promotion of positive black racial images, and the provision of a warm and nurturing socioemotional climate, all of which enable black students who have had academic difficulties in other settings to be academically successful (Lomotey & Brookins 1988; Ratteray 1992). Thus in this study I sought to learn more about how the characteristics of school environments operate to produce particular student outcomes. The idea was to examine a black independent school and another type of school characterized by a different environment. Because public schools, particularly predominantly black urban schools, are usually defined in direct opposition to black independent schools in terms of school environment (Foster 1992; Lomotey & Brookins 1988; Ratteray & Shujaa 1987), I chose to include a public school in the examination.

I selected the city of Hopeville, one of the largest cities in the Southeast, because it offered a sizable pool of black independent schools and a majority black population. These factors increased the possibility of finding both an appropriate black independent school and an all-black public school in the same city. I selected Madison and Alternatives based on their location in this city and comparability of racial composition and school size. However, in addition to school type, the schools differed in another important respect: Alternatives was a Christian school. Because most of the black independent schools in the area had some religious affiliation — as is the case with black independent schools nationally (Ratteray 1990) — this was the only school I was able to find that met the criteria of size, locale, and racial composition.

THE SCHOOLS AND THE SAMPLE

Madison and Alternatives were similar to each other in a number of respects. Both schools were relatively small: Madison had a population of 299 students in kindergarten through grade 5, and Alternatives had 195 students in prekindergarten through grade 6. There was one principal at each school, a black male at Alternatives and a black female at Madison. All of the 16 teachers at Alternatives were black, but 5 of the 24 teachers at Madison were white and all others were black.

Madison was one of six elementary schools in the Hopeville public school system classified as having a 100% African American student body; however, most of the schools were majority African American. Madison was not a special public school created to serve black students, nor was it a magnet school or specially designed in any way; rather, much like other public schools, the racial composition of the school was a result of de facto neighborhood segregation. Madison was one of eight schools in the system with fewer than 65% of the students classified as low income, and, of those schools, it was one of only two with a predominantly black student population. Still, over half (59%) of the students at Madison were eligible

for free or reduced-price lunches, compared to 80% for all elementary school students in the district. All students at Alternatives participated in the school's lunch program because lunch fees were included in tuition.

Madison is located in a somewhat affluent area of Hopeville, a middle-class residential community of about 10,000, not far from the city's central business district. In 1990, median income in this community was \$46,000, and 39% of the adult residents 25 and older had at least a four-year degree (CensusCD+maps, U.S. Census 1990). The area is home to some of the city's most prominent African Americans and other black professionals. The 1960s and 1970s saw the community's population change from white to predominantly black, but unlike other areas in the nation where this has occurred, property values actually went up rather than down. This is one of the few areas within the city limits that still attracts middle-class African Americans. Madison draws students from some of these families along with children from less affluent families.

Students traveled from a wider geographic area of the city to attend Alternatives, which is located a few miles east of the city's central business district. Most Alternatives families were members of the church of which the school is an outgrowth, and this affiliation attracted many to the school. Although the median household income of the Alternatives sample seems high at almost \$50,000 (see Table 1), some families struggled financially to keep their children at Alternatives. In a few cases, parents fell so far behind in tuition payments that they were forced by the school to keep their children at home until they were able to pay some portion of the bill.

I studied two classrooms at Alternatives and two at Madison. In total, there were 72 students in the four classrooms. Sixteen students (8 from each school) did not participate in the study either because they did not return the consent forms or because they returned the consent forms declining participation.⁷ The observation data reported here focus on the 56 students who consented to participate in the study. The interview and report card data come from a sample of 40 of these students, 10 from each classroom.

More than three-quarters of the students in the interview sample lived in two-parent families (some included stepparents). All interviewed parents ($N = 36$)⁸ were high school graduates. In the Madison sample, more than half of the parents reported at least "some college," eight were college graduates, and some had graduate degrees. Half of the parents in the Alternatives sample also reported "some college," but only five were college graduates, and no one had an advanced degree. Self-reported median family income of parents participating in the study fell in the range of \$40,000 to \$59,000 annually at Alternatives and \$60,000 to \$79,000 annually at Madison⁹ (see Table 1). These figures are well above the median family income for both the city as a whole (\$25,173) and African Americans nationally (\$26,522) (U.S. Bureau of the Census 1999). The 59% free or reduced-price lunch figure for Madison is not consistent with the reported household income of the parents in

TABLE 1: Selected School and Classroom Characteristics

	Madison	Alternatives
Median range of household income	\$60,000-79,000	\$40,000-59,000
Third-grade classrooms	Mrs. Miller	Miss Andrews
Number of students	16	20
Number of girls	9	15
Fourth-grade classrooms	Mrs. Solco	Miss Clifton
Number of students	22	14
Number of girls	13	9

Note: Median household income is based on midpoints of interval categories of self-reported household income of the parents participating in the study.

the sample. The most plausible explanation for this discrepancy, as an employee at the district’s central office explained to me, is that parents underreported household income to the school.

The children in this sample differ from the majority of their peers in family income and household composition. A few things should be kept in mind regarding the high income level of the sample, however. First, these figures are based on medians of interval-level categories (e.g., \$40,000–\$59,000) and are therefore imprecise at best. Second, most of the children in this sample live in two-parent families. Compared to national figures that show that single-parent households account for more than half of all black family households (Current Population Reports 1997), we might expect a higher average household income for this sample. Household income for all but 8 of the 36 students for whom this information is available is based on two incomes. In other words, of the parents interviewed, in every home in which there were two parents, both worked. The single parents in the sample reported significantly less household income than the married parents — a difference of about \$25,000.

Third, contrary to popular belief, the size of the group of high-income (significantly above the national median) black households in the United States is nonnegligible. For example, according to U.S. Census figures for 1996, total money income of \$45,000 or more accounted for 23% of black households (Current Population Reports 1997). It would be a mistake, then, to dismiss children from these families as some kind of anomaly and therefore irrelevant in this discussion. Furthermore, it is rare that a class distinction is made in scholarly and popular discussions of attitudes toward school among black students. When Fordham and Ogbu (1986), for example, write about the attitudes and “mind-set” of “black Americans” that contribute to academic underachievement, they do not specify the particular segments of the population to which they are referring. Although their data are generated from students in a low-income school, the theory of an

“oppositional collective identity” and “oppositional cultural frame of reference” is generalized to the wider “black community.” Finally, it is worth repeating that the widespread perception of an anti-achievement disposition among black students, as well as some of the empirical evidence that would support this perception (see Pattillo-McCoy 1999), includes middle-class black students. For these reasons, the voices of these higher-socioeconomic-status black students do matter in this discussion and can make an important contribution to our understanding of the issue of attitudes toward school among black students as a group.

CLASSROOM OBSERVATION

At each school, I selected one third-grade and one fourth-grade classroom for observation (see Table 1). From November 1996 through June 1997, I spent one full day per week in each of the four classrooms. I observed students, recording in a notebook the conversations and interactions among and between students and teachers and the actions, facial expressions, body language, movement, demeanor, and tone of voice of the participants.

STUDENT INTERVIEWS

In each of the four classrooms, I selected a random sample of 10 students (5 girls and 5 boys where possible) for in-depth interviews. The interview sample contained 23 girls and 17 boys. I also interviewed the parents of these children, the homeroom teachers of the four classrooms, and the principals. Student interviews were conducted after at least three months of classroom observation. The students were familiar with me by then and appeared relatively comfortable in the interview. I conducted interviews privately on school grounds after school (e.g., in the library or the school yard). All interviews were audiorecorded. Most students were eager to be interviewed and talked openly and candidly during the interview; however, a few students were reticent and offered very little detail in their responses.

Student interviews focused primarily on school experiences and attitudes toward school, learning, and achievement. The question format was general and open-ended so that the student rather than the interviewer identified the experiences and events that were salient or important to her or him (e.g., “Tell me about your school”). To learn more about students’ experiences in schools and their expectations and attitudes, I asked them to tell me about their time in kindergarten up until their current grade, the work they did in school, and their teachers (“Tell me about your kindergarten teacher.” *Probe*: “What was she or he like?”). I asked students to tell me about their school, what they liked and disliked about it, and how they felt about school in general. I asked them to tell me about grades they were happy with and those they were unhappy with, thus allowing them to define their own measure of achievement. I also asked students to tell me how those grades

made them feel and why they think they received them. I inquired about career aspirations and expectations for future academic achievement.

TECHNIQUES OF DATA ANALYSIS

During data analysis, I searched interview transcripts and field notes, manually and by computer, looking for repeated themes and patterns in the data. I also looked for the contradictions and exceptions, engaging in what Strauss (1987) calls “constant comparisons.” Across the four classrooms, a distinct pattern of school engagement and achievement orientation was evident. These were the most prominent and persistent themes emerging from the data. For example, almost without exception, each day’s classroom observation contained signs of school engagement and/or achievement orientation. Although there were also signs of disengagement in some form or another, they were significantly fewer in number than those of engagement and were often explained by student frustration, anger, or sadness related to poor performance or denied opportunities to participate in the classroom.

Analysis was done on multiple levels: within and between schools, classrooms, and students. I created a number of charts for individual students, classrooms, and schools. For example, I created grade school charts for each student in the interview sample using quotes and other information. I chose quotes that best illustrated, justified, and/or elaborated the conceptual themes or categories (Blauner 1987; Miles & Huberman 1984). I use quotes from those charts in this analysis. The charts roughly characterized each student’s overall school experience to date. From these charts I was easily able to assess the school experiences and the commonalities and contrasts between individuals as well as between groups (class, school).

In the analysis that follows, I present classroom field notes and student interview narratives highlighting important indicators of school engagement. I employ Steinberg’s (1996) definition of *engagement* here: “the degree to which students are psychologically ‘connected’ to what is going on in their classes.” Steinberg further characterizes engaged students as “interested in school and committed to doing well there” and as “there physically as well as emotionally” (15). Engaged students care about their performance in school and are active participants in the classroom.

Results

Madison field notes, November 15, 1996, Mrs. Miller's classroom

Mrs. Miller asks the students to clear their desks and take out their math homework. There are some reactions: "Oh, goody." "Yay." Mrs. Miller is calling out the answers to the homework. Now she allows the students to call out the answers. They shout, "Yes!" emphatically for each answer they have correct. Someone calls out: "Got all mine right." Mrs. Miller asks Gregory for the answer. His answer is correct. The students yell, "Yay." After they work the last problem out on the board, the students shout, "One more, one more." Mrs. Miller says no, and tells them that they will now work independently. Mrs. Miller instructs the students to go to their practice books. They shout, "Yay."

Madison field notes, December 5, 1996, Mrs. Solco's classroom

8:45 Mrs. Solco informs the class that she had two correct papers for yesterday's "Problem of the Day" that she threw out because they were without names. She said the other students who got the problem correct were awarded stars on the display board. Heather begins to complain and then starts to cry. No one else in the class has any reaction to this news. Evidently, one of the papers belonged to Heather. A few minutes later, Heather is still crying. She gets up and goes to the display with the stars, perhaps to see if there is one by her name. Seeing no star next to her name, she goes back to her seat and cries some more.

8:54 Heather is still crying. Mrs. Solco says to her, "I will not tolerate it. Go to the restroom and fix it." Heather takes a pass and leaves the room crying.

8:55 Heather returns.

8:59 Heather is still crying and rolling her eyes at Mrs. Solco.

12:24 Heather is still preoccupied with the missing star. She continues to check the poster for her star. Now she is rummaging through the garbage can. She takes out some papers and looks through them. She hands the papers to Mrs. Solco.

These classroom observations present a different view of black students; they are excited and enthusiastic during learning activities and care deeply about achievement. Rarely did the students I observed appear to be embarrassed by their ability to do well or by actual high achievement. In most instances, students openly expressed their emotions related to classroom experiences of both success and failure. To understand more fully the significance of these findings, the next section will break down the students' behavior and attitudes into concrete categories.

STUDENT ENGAGEMENT AT MADISON AND ALTERNATIVES

Ability Shows

Students openly and enthusiastically vied for what I call "ability shows," opportunities to demonstrate competence through classroom participation. Insofar as students expected a successful ability show, they eagerly sought opportunities to reveal to their peers, teachers, and, perhaps most important, themselves how bright and capable they were. The intensity with which students vied for a show seemed to depend on their level of confidence. Students regularly shouted "Oooh!" or called out "Me, me, ooh, ooh, ooh!" or "Please me!" sometimes with pained looks on their faces as they waved their arms in the air for a chance at a show.

Ability shows are significant for students in this context for two reasons. First, successful ability shows supply actors with a sense of personal satisfaction and confidence in their abilities. Second, the shows can potentially provide others with positive information about the actors that can then be projected back to them (in the form of praise or some other reward). Students often used ability shows as a primary source of information to determine who the smart people were in the class. Thus the more opportunities to stage a successful show, the greater the chance to be considered smart. It is for this reason that students sometimes staged deceitful ability shows. In this case students somehow indicate to others that they have earned a higher grade(s) than they in fact have or that they have correct answers when they do not.

The students at Madison and Alternatives could hardly restrain their enthusiasm in the classroom, and for the most part their classmates did not condemn them for this behavior. This type of behavior was the norm; at one time or another every student vied for an ability show. Ability shows were so important to the students that some students were reduced to tears and tantrums when, for whatever reason, they were denied the opportunity by teachers.

Alternatives field notes, March 6, 1997, Miss Clifton's classroom

Janet is now crying. She was complaining loudly that Miss Clifton did not call on her.

Madison field notes, November 25, 1996, Mrs. Miller's classroom

Allen gets upset and folds his arms and looks angrily at Mrs. Miller. Mrs. Miller had called on Darlene to read after it appeared that he did not know where they were in the book when she called on him to read.

Madison field notes, April 22, 1997, Mrs. Miller's classroom

Mrs. Miller calls on Brad to work the problem on the board. Trey called out to Mrs. Miller, asking her if he could do the problem on the board. "He always gets to do problems!" Trey says angrily about Brad. Allen is also upset and he

complains about the same thing. Mrs. Miller says something to the boys about their reaction and Trey responds, "Cause he get to do more things than anybody in Quest."¹⁰

This eagerness to participate in class fully embodies Steinberg's definition of engagement and indicates that the students had a positive relationship to school. Rather than downplaying ability, these young students eagerly sought public opportunities to demonstrate competence and ability in the classroom.

Celebrating Achievement, Lamenting Failure

Students at Madison and Alternatives were noticeably proud of their academic successes, big and small, and as visibly embarrassed by their failures. For example, failed ability shows brought about looks of disappointment and frustration, while successful ability shows usually prompted public celebrations. Students gave each other high fives, danced, pumped their fists in the air, and exclaimed their satisfaction in hushed tones (attempting to avoid being punished for "disruptive" behavior), openly displaying their pleasure. Failure and low achievement inspired the opposite response from students.

Alternatives field notes, January 1, 1997, Miss Clifton's classroom

Class spelling bee. Mycah has the word *dedication*. She spells it incorrectly. With a sad look on her face, she walks to her seat and flops down in the chair, putting her head down on the desk.

Alternatives field notes, December 19, 1996, Miss Clifton's classroom

Spelling bee. Paulie spells *drizzle* incorrectly. Sherry spells it correctly. "Very good," Miss Clifton remarks. Sherry begins to smile. Sullen, Paulie says to her, "It's not funny." Sherry tells Paulie that she was smiling because she "got it right."

Here again we find examples of engagement: students who are psychologically connected to achievement outcomes. They are proud of their academic accomplishments and saddened by their failures, and in neither case do they hide their feelings.

Teasing and Ridiculing Achievement

A particularly telling sign regarding attitudes toward achievement was found in classroom teasing. Interestingly, whereas older black students are often said to ridicule and ostracize their peers for *high* achievement, these young students ridiculed each other only for *low* achievement. Everyone was teased; whether high or low achievers objectively in their class, all students were teased for making mistakes or otherwise performing poorly.¹¹

Madison field notes, November 20, 1997, Mrs. Solco's classroom

Annette and Gina (low achievers) seem to be the only ones who have followed the instructions for the graph. Many others did the graph incorrectly. Annette and Gina seem pleased with themselves and they are laughing at other students.

Madison field notes, November 25, 1996, Mrs. Miller's classroom

Two boys (low achievers) are arguing. One says to the other, "Least I don't fail, at least I made a B, a B+." He then says to me (about the other boy): "He made an F."

Madison field notes, December 26, 1997, Mrs. Miller's classroom

Hope (high achiever) has some wrong answers. She says she doesn't "get it." A few students call her "dumb" and "foolish."

These incidents do not correspond with Steinberg's (1996) claim, based on findings among adolescents, that American students "glorify stupidity." Although both low- and high-achieving students at Madison and Alternatives engaged in this type of ridiculing and teasing, the behavior was most pronounced at Madison, and low achievers were most likely to ridicule each other or the established high achievers (such as those in the gifted program) for occasional poor performance.¹² For example, once, as Mrs. Miller had students calling out the number of problems they had gotten wrong on a math test so that she could record grades, Trey, a low-achieving student, sat laughing. Trey had gotten all ten of the problems correct and was quite pleased with his perfect performance as he listened to student after student call out one or more wrong. When Regina and Brad, two students in the school's gifted program Quest, respectively called out one and two wrong, Trey tipped his head back and, with a smirk on his face, quipped snidely, "And y'all in Quest too." The ridiculing of low achievement was found in every classroom I observed. However, I found no evidence of students being ridiculed or ostracized for academic success *unless* their peers suspected that they were showing off or being boastful (in which case the ridicule had more to do with resentment). In other words, students were not scorned for being smart; they were scorned for *how* they did smartness, for arrogant and obnoxious behaviors.¹³ Modest high-achieving students did not encounter this problem and in fact were well liked by their peers.

A few high-achieving students seemed to be regular targets of their classmates' scorn. Two students in particular warrant mention. Brad and Hope, both in Mrs. Miller's class at Madison, were often the object of low-achieving students' contempt. In the case of Brad, some students believed that he was a show-off and that Mrs. Miller called on him more than others. At the same time, it was not unusual to hear Mrs. Miller tell Brad to put his hand down because she knew that he knew the answer. Hence, while everyone vied for ability shows, the students seemed less tolerant of Brad's doing so. Calling on Brad more than others or publicly declining

to call on him because he knew the answer called attention to him in a way that seemed to lead to resentment among other students, particularly low-achieving students.

With the other student, Hope, the problem seemed more obviously connected to her own behavior. Not only did Hope have a reputation among her peers (and teachers) of being a “busybody,” but she also regularly called attention to or made fun of other students’ mistakes and failures. The following incident illustrates Hope’s behavior.

Madison field notes, November 5, 1996, Mrs. Miller’s class in Health

Mrs. Peeples collects the tests and talks to the students about it. She says that they went over this information before and had the page numbers to read on their own. She says that only four people correctly answered the question. Students ask her to name the four people. Mrs. Peeples refuses, but she reads aloud some of the incorrect answers. The students laugh. Mrs. Peeples tells the class she doesn’t understand the responses and she reads another response that is especially odd. The students laugh. Mrs. Peeples puts the papers on her desk. Hope goes over to the desk. She sees Dion’s name on the paper with the odd answer that Mrs. Peeples has just read. Dion is at the desk with Hope. Hope tells Dion, so that all can hear, that the paper is his. Dion says it isn’t. Hope says, “Your name is on it.” Dion still denies that the paper is his. They go back and forth; Dion will not admit that the test is his and Hope, insensitive to his embarrassment, will not let it go.

As a result of her treatment of others, Hope’s classmates, especially the low-achieving students, usually did not miss an opportunity to ridicule her in the same way. Hence, smart students were not ridiculed because they were smart; they were ridiculed if their behavior was perceived as obnoxious, boastful, or arrogant in any way.

Of the 56 students across the four classrooms who participated in the study, 31 met the criteria of a high-achieving student as defined in this analysis. Only about 4 of these students were regularly ostracized because of arrogant behavior. In fact, based on classmate friendship nominations (“Who are your friends in the class?”), many of the high-achieving students were among the more popular in their class with both high- and low-achieving students. High-achieving students were more likely than their lower-achieving peers to receive three or more friendship nominations.

Again, both high and low achievers were teased for poor performance, but at other times students encouraged and stuck up for one another in the classroom. This was especially true of the students at Alternatives, who, perhaps because of shared church membership, were a much closer-knit group than the students at Madison. Low-achieving students were usually the beneficiaries of their classmates’ compassionate behavior.

Alternatives field notes, February 20, 1997, Miss Clifton's class

Miss Clifton calls on Shane (low achiever) when he says he hasn't been to the board yet. Another student comments, "He'll get it wrong, I know." Miss Clifton says to her, "You have a lot of nerve and you know that was wrong." Shane remains seated and refuses to get up. Finally Miss Clifton is able to coax him up to the board. His answer is correct. The students clap for him. "Nice going, man," one of the other boys says to him. Other students praise Shane and the other student is now crying.

Alternatives field notes, February 25, 1997, Miss Clifton's class

Math. Fractions. $1/12$ of 144 = ____.

Karly (high achiever) writes 11. "Come on, Karly, you can do it, girl," other students say to her. Karly changes her answer to 12. The students are commenting that the work is easy, some are "ooing" and "aahing," with raised hands, hoping Miss Clifton will call on them. Miss Clifton calls on Bobby (low achiever) to do a problem. He doesn't want to do it. The other students tell him that it's easy. Bobby does the problem correctly and the students clap for him.

Feelings and Attitudes toward Academic Failure

It was obvious that low-achieving students at Madison and Alternatives were suffering as a result of their poor academic performance. Rather than being burdened by high achievement, as some scholars posit black adolescents are, these young black students were facing a burden of low achievement, which came across most poignantly in the interviews. This finding that black children experience emotional distress in the face of academic failure is not unique. In another study focused on urban black elementary school students, which assessed the process by which students were admitted to a school's high-track classes, Gilmore (1985) noted that children who were not admitted to the program cried (as did their parents).

To complement classroom observations concerning black students' attitudes toward school, I turn now to interview narratives. I focus on low-achieving students to illustrate that failure and underachievement, at this stage, are not conscious choices for black students. The narratives of these students demonstrate quite vividly that they experience failure as painful and seek ways to avoid the experience.

Lynette, Allen, and Trey were among the lowest-achieving students in Mrs. Miller's third-grade class at Madison. Their attitudes toward school appear clearly connected to their achievement experiences. For example, when I asked Trey if there were any subjects that he did not like, he named science. I followed up by asking why, and he responded, "Cause." "Cause what?" I asked. "I don't know. I just don't like it," he said. Finally, after pausing for some time, he lowered both his head and his voice and said: "That every time I'm failing. I only passed two tests." On the other hand, Trey named math as his favorite subject because he said he

won an award for “best math” in the second grade. This is significant because Trey’s math grades (D⁺ average) in the third grade were among the lowest in his class, yet he continued to cling to the year-old evaluation of himself as “best” in math.

Successes were as great a source of pride for these children as failures were disappointing and frustrating. Students who were struggling academically often expressed a desire to avoid school for that very reason. This relationship between academic failure and a dislike of school is also found among adolescents and often results in their dropping out of school (Taylor 1989); however, some researchers imply that school failure is a result of negative dispositions toward school (Ogbu 1978; Rumberger & Larson 1998). In the following narratives we begin to see that the relationship is reversed: failure seems to bring about the negative school-related behaviors and attitudes of these students.

At the time of his interview, Allen stated that he liked school but admitted that his feelings might change in the near future depending on his academic performance.

Madison, third-grader Allen

Researcher: Do you think you’ll always like school?

Allen: [Nods] Uh-huh.

Researcher: Why?

Allen: [Hesitates] Well I don’t know about fourth grade.

Researcher: Why? What’s wrong with fourth grade?

Allen: ’Cause I might get harder and harder problems.

Researcher: And then what would happen?

Allen: I’ll probably fail and get kept back.

Researcher: You think so?

Allen: Uh-huh.

Researcher: Why?

Allen: ’Cause I probably haven’t done all my work.

Researcher: Why wouldn’t you do all your work?

Allen: I will, but I might get mine wrong and if we have a test it might be hard — which I don’t want to take in fourth grade.

Researcher: You don’t want to take any tests in fourth grade?

Allen: Uh-uh.

Researcher: Why not?

Allen: ’Cause it might be hard and I might — all I’mma do is just stay home and act like I’m sick.

Allen had had his share of failure and was not looking forward to more of it in the fourth grade, where he anticipated the work might get harder and more difficult

for him to handle. As he considered the possibility of more failure, he quickly devised a simple plan to avoid school in the future.

Lynette was facing a similar struggle with failure. Already having had the experience of being retained (first grade), when I asked her if she was looking forward to fourth grade, fearing more failure, she said she was not. Part of that conversation follows.

Madison, third-grader Lynette

Researcher: Are you looking forward to going to the fourth grade?

Lynette: Uh-uh.

Researcher: Why?

Lynette: 'Cause my grades are low.

Researcher: So what does that mean that your grades are low? Does that mean that you won't like fourth grade?

Lynette: I don't think I'mma pass.

Researcher: How come?

Lynette: My grades are low. [*Exasperated, "I already told you" tone*]

Researcher: What do you think fourth grade will be like?

Lynette: Harder than all those years I had before.

Lynette was painfully aware of her academic deficiencies and her performance in relation to that of her classmates, and she was very clear on the fact that she did not like school (one of the few students who admitted this). Her academic troubles were clearly a source of distress for her and seemed to be the root cause of her negative attitude toward school.

Madison, third-grader Lynette

Researcher: Do your parents talk to you about school? [*She nods.*] What do they say?

Lynette: They tell me to try my best.

Researcher: And what do you think about that?

Lynette: I feel strong then. But when I get to school I'm just weak.

Researcher: Really? What do you mean by "when you get to school you're just weak"?

Lynette: I'm grumpy and I don't wanna do my work.

Researcher: Why not? Why are you grumpy?

Lynette: I don't like school. [*She says this in an "I already told you" tone.*]

Researcher: Why do you think you don't like school? Do you think if you understood more you would like it more? [*Nods her head*] You think so? Yeah? So you think maybe if your tutor helps you a lot you would start to like school more? [*Nods her head again*] Yeah?

Lynette: Uh-huh..

Researcher: Why?

Lynette: Because I'm improving a lot and I would be the super person in class like Regina.

Researcher: You think Regina is the super person in class? Why?

Lynette: Because she knows everything.

Researcher: How do you know Regina knows everything?

Lynette: Because she always raises her hand and she always says it [the correct answer] and stuff.

Researcher: I see you raise your hand.

Lynette: But sometimes I might get it wrong.

Note that Lynette's description of Regina included no hint of resentment or animosity toward this high-achieving student. In fact, Lynette counted Regina among her best friends in the class. Lynette was aware of and still connected to what was going on in her class. Being the "super person" in class and having opportunities for successful ability shows remained important to her. However, based on her experiences with failure, Lynette, like Allen, anticipated only more failure in the future and thus little chance of being the "super person." Consequently, rather than looking forward to the higher grades that the majority of their peers did, Lynette and Allen were apprehensive.

This interpretation is consistent with findings presented in Reginald Clark's (1983) examination of the family characteristics that contribute to the failure or success of poor black high school students. In that study, Clark provided case histories of at least two failing students that parallel the experiences of some of the low achievers in the current study. Clark identified past school failure as a significant factor in the adolescents' current problems, including their disrespectful and detached attitudes toward school and teachers. His findings also showed that even among these students, achievement is a desired outcome; however, because the students did not expect that success was possible, they did not put forth much effort. Lynette and Allen appear headed in the same direction.

High-achieving students at Madison and Alternatives did not fear the future in the same way that Lynette and Allen did; in fact, most of them looked forward to the challenges awaiting them in higher grades. These high-achieving students saw themselves as smart and capable individuals and were anticipating continued success in the future. However, they did not necessarily view all of their work as easy. Many thought their academic work was challenging, but it was the challenge, coupled with the perception of high ability, that excited them.

David was one of the highest achievers in his fourth-grade class at Madison. He envisioned that he would continue to like school because, as he said, "I'll probably still like to learn. And I'll have more problems and stuff. Like hard math, calculus,

and stuff.” Over at Alternatives, Karly, also a high-achieving fourth grader, was looking forward to “new things, like algebra, ratios and a lot of other things,” in fifth grade. Rather than being turned off by the thought of harder work, these students seemed pleased by the prospect. The different trajectories of achievement led to different expectations for the future and different attitudes among the young students. The students’ responses to their achievement outcomes, at this stage and in these settings, do not appear to be culturally based; instead, they seem to be part of a rather universal process. Studies in the field of educational psychology using samples containing both black and white students support this view (Middleton & Midgley 1997).

Although there were other low-achieving students in the samples at both Madison and Alternatives, I chose to highlight Lynette, Allen, and Trey because their suffering was most apparent in narratives as well as classroom behavior. With the exception of Trey, these students also seemed more resigned to failure, perhaps because of a longer and more persistent history of poor academic performance. Other low-achieving students in the sample with shorter or less stable histories of failure were slightly more hopeful that their performance would improve. They were also less likely to report that they did not like school.¹⁴

Take Rhonda, for instance, a low-achieving fourth grader at Alternatives who said she feels “great” about school. What is particularly interesting about this case is that Rhonda was retained in kindergarten at another school, where it appears she had had a thoroughly negative experience. Since coming to Alternatives, her school experience had changed for the better. In addition to being placed in her age-appropriate grade, she now was having some experiences of academic success, which she said made her “feel intelligent.”

Alternatives, fourth-grader Rhonda

Researcher: What is it you like about school?

Rhonda: You get to make new friends and you learn something and your teacher says you’re not dumb, you’re not stupid, ’cause you’re smart and intelligent.

Researcher: Is that important to you?

Rhonda: Yup.

Researcher: Why?

Rhonda: Because I want to feel intelligent and smart.

Researcher: Can you tell me why you want to feel that way?

Rhonda: So if I get a job I won’t have to be dumb and stupid.

Researcher: Have you ever felt like you were dumb and stupid?

Rhonda: No.

Researcher: Have you always felt like you were intelligent?

Rhonda: No.

Researcher: Do you feel like you’re intelligent now?

Rhonda: Yes.

Researcher: When did you feel like you weren't intelligent?

Rhonda: When I was two years old. When I was in day care these big people they always pick on me and they'll say, "You dumb, you stupid, you ugly."

Rhonda's narrative offers further evidence of the children's relationship to school and achievement. Here again, too, we glimpse the significance of being able to view oneself as "smart." In the space of a 30-minute interview, Rhonda made 17 references to ability ("stupid," "smart," "intelligent," "dumb"), more than any other student. The experiences of being retained, earning poor grades, and being called "dumb and stupid" by adults no doubt all contributed to her intense desire to "feel intelligent." Fortunately, Rhonda's academic successes at Alternatives and the encouragement of her teachers there provided her with some indication that she might not be "dumb" after all. For example, although her grades were somewhat low (2.4 GPA), she described them as "intelligent" because, as she said, getting a few "A's and B's and sometimes C's" made her "feel intelligent." Yet Rhonda was still unsure of her ability; she told me she was only "a little bit smart," explaining that "sometimes I make F's and D's."

Pride in Achievement

Grades provided one of the more powerful indicators of ability for students. When asked about grades with which they were pleased, most students talked about the highest grades they received, but others talked about passing grades they earned in subjects or on tests that they found difficult. Again, this is not what we would expect to find among students whose culture disparages academic achievement. Not only did students not disparage achievement, but most of them readily owned up to their feelings of pride. Pride was a motivating factor in achievement for many of the students. One-third of them, both high and low achievers, used the word *proud* to describe either their own or their parents' feelings about their academic achievements.

Madison, fourth-grader Tracy

Researcher: How did that make you feel when you got your report card and you had all of those A's?

Tracy: I felt so happy. I'mma admit to this, I wanted to just say, "Hallelujah." And it was just real, my parents were real proud of me.

Alternatives, fourth-grader Tia

Researcher: Did you ever get a grade that you didn't like?

Tia: I got, I had it, 'cause when my report card came out I had a high grade, then when the second quarter, when it came, I had twos, which meant only 70% through 80%.

Researcher: And why didn't you like that?

Tia: Because I knew I could do better than that. 'Cause I made a high one before it came and I knew I could do better than that.

Researcher: How did it make you feel when you got those twos.

Tia: I didn't feel proud of myself because I knew I could do better than that and I just wasn't studying and practicing that hard.

Madison, fourth-grader David

David: When I get A's and stuff I'm happy with those 'cause those are like high as you can get and stuff, so I'm happy when I get A's in everything.

Researcher: Why is that something that makes you happy?

David: 'Cause my parents are proud of me and I'm proud of me. And I guess the teacher's proud of me, I guess. And then that just makes me happy and so, it just makes me happy.

Madison, fourth-grader Marcus

Researcher: Have you ever been on the honor roll or the principal's list?

Marcus: I've been on the honor roll this year and that was my first time and my mom came to the ceremony and I got a pin, we ate — you were here, right? And so you know.

Researcher: You liked it?

Marcus: Yes, I was very happy.

Researcher: Why?

Marcus: 'Cause my mom took me to Red Lobster afterwards and she was very proud of me and I felt good 'cause she was proud of me 'cause I worked hard as I could.

Here again, the children's narratives present a clear picture of students who cared about their academic performance. The approval and emotional support they received for achievement from their parents were also important to them. The children's statements, particularly the use of the word *proud*, are not indicative of students who felt "burdened" or stigmatized by achievement. From other statements, though, we do know that the students felt stigmatized by failure. For example, in his interview, Allen told me that he felt "ashamed" of himself for the F's he received in health and science. Employing Osborne's (1997) theoretical understanding of identification with academics here, these black students were solidly identified with academics; good performance was rewarding to them and poor performance was punishing.

Discussion

In this article I revisited the issue of negative school-related attitudes among black students and brought the voices of younger students into the discussion. The scenes in the four elementary school classrooms at Madison and Alternatives and the narratives of the students contradict the notion that school, learning, and academic success are unimportant or uninteresting to black students as a group. There is also no support for the thesis that a rejection of school norms is part of a larger black culture. Among the students in the present study, there were no signs of condemnation or ridicule of students who appeared to be learning and excelling except when it appeared that those students were frequently showing off or themselves ridiculing others. Only in cases where high-achieving students' behavior was perceived as boastful or obnoxious were students ostracized. Lower-achieving students seemed to resent behavior that appeared to put them down. They were insulted and hurt and expressed bitterness by treating the higher-achieving students whom they perceived to engage in such behavior in kind. I also found numerous cases of both high- and low-achieving students teasing one another for academic failure and at other times encouraging and cheering each other's and their own successes.

The students in these classrooms openly expressed their enthusiasm and excitement toward learning and schoolwork. They sought response opportunities in an exaggerated, active manner, which conveyed their strong desire for achievement as well as a lack of fear (of social ostracism) or self-consciousness about high achievement at this age. These findings are contrary to what some scholars expect would be found among black adolescents.¹⁵ Yet it is not enough simply to say that these behaviors are "not indicative of adolescent norms." The lack of such outward enthusiasm and eagerness is used as one indication of black students' negative disposition toward school and therefore is part of the explanation for why their academic performance is consistently below that of other groups. It is important that we attempt to explain this change in behavior among black and other students. Steinberg's (1996) findings suggest that the adolescent norms that Ferguson describes are not unique to black students. Therefore it seems likely that the shift is part of a general developmental process but that the particular form it takes may be shaped by factors such as race, class, gender, and school experience.¹⁶

POSSIBLE ALTERNATIVE EXPLANATIONS OF THE FINDINGS AT MADISON AND ALTERNATIVES

Competition

An alternative explanation for the type of behavior found at Madison and Alternatives is that it was about competition; perhaps the classroom environments were very competitive and thus encouraged competitive behavior. There are a number of reasons why this explanation is unlikely. First, teachers in all four of the classrooms under observation usually punished students for their unrestrained enthusiasm and excitement. Punishment came in the form of denied opportunities to respond or otherwise participate in the classroom activity; teachers either did not call on the offending student(s) or asked the student(s) to leave the room. For example, teachers commented, "I'm looking for a quiet hand," or "I don't call on students who hyperventilate."

Second, if this behavior were merely about competition, we would not expect to find so many students expressing disappointment, sadness, and embarrassment over failure in the private space of the one-on-one interview. Furthermore, these feelings were more often expressed when students were discussing private events such as test scores and report card grades, rather than public events in the classroom such as mispronounced words or wrong answers given. This indicates that the children's personal struggles to comprehend and master academic material outweighed their inability to impress or outperform others in the classroom. This was a matter of competence rather than competition. Child psychologists agree that children have a strong need to feel a sense of competence (Poussaint 1972). Ability shows provided occasions to fulfill that need — hence the frenzy among both high- and low-achieving students for opportunities to participate.

Atypical Schools

Madison and Alternatives were not typical of the schools that black students attend. They were both small schools with all-black student populations, and Alternatives was a Christian school. These factors undoubtedly made the children's experiences different from those of other black students, most of whom attend large public schools with at least some children from other racial or ethnic backgrounds (although these schools tend to be highly segregated between majority and minority children).

Within the context of their schools and classrooms, the students in this sample had only other black students as referents.¹⁷ For example, because all of the high-achieving students at these schools were black, an association between whites and achievement may have been slower to develop among the students.

Both schools explicitly attempted to provide students with particular types of experiences perhaps not found at other schools, such as acknowledging and

appreciating the culture and contributions of African Americans and other minority groups and conveying high expectations verbally and through the use of challenging academic material.¹⁸ This appeared to contribute to the children's continued school engagement, excitement, and general enthusiasm toward learning. The racial composition and the environments of these two schools helped encourage academic engagement and positive attitudes toward achievement among their students. This evidence points to the significance of the school experience in the development of attitudes toward school.

Class Background

Most of the children in this sample were from middle-class families, but there were a fair number of children from working-class families, especially at Alternatives. As a group, though, the parents in the sample had higher education, higher family income, and, in some cases, higher occupational status than the average African American adult (U.S. Bureau of the Census 1999). These factors surely played a role in fostering pro-school and pro-achievement attitudes among the students. It is also likely that these factors influenced teachers' perceptions and treatment of the students (Brophy 1983; Good 1983; Rist 1970).

I also found evidence, not presented here, that parents provided assistance with homework and school projects and generally placed heavy emphasis on school achievement. Many of the parents also had access to resources that could facilitate their children's school success. For example, some parents were able to hire tutors for their children when necessary or to purchase supplemental educational materials, and some were able to call on family members or friends who were educators for help with specific problems. Many of the parents also appeared comfortable dealing with school personnel and making demands of the school, and few mentioned having difficulty balancing time constraints of jobs and their child's needs at school. We know from studies like those conducted by Annette Lareau (1987) that there are class-based differences in families' relationships with schools. Thus, it is likely that the cultural, social, and financial capital of these middle-class children were important factors here.

Does this mean that in the absence of such capital, children will begin school with less curiosity about the world and less eagerness to express their natural desire to explore and master their environment than more privileged children? This is an empirical question. However, we know from the research of Ford and Harris (1996) that black fifth and sixth graders from low socioeconomic backgrounds overwhelmingly felt that school and getting good grades were important. Furthermore, previous research has suggested that all children, regardless of social class or racial background, come to school with a desire to learn and achieve (Gallas 1998; Sennett & Cobb 1973; Suarez-Orozco & Suarez-Orozco 1995) — the factors with which this article was ultimately concerned. Individual children certainly begin

school with different levels of preparedness; different levels of ability, motivation, excitement, and enthusiasm; and different capabilities and strengths. Schools can help either minimize or exacerbate those differences once children arrive.

Conclusion

This research addressed black students' early school engagement and attitudes toward achievement and learning. Although the study was based on a small regional sample of middle- and high-income black elementary school students, the findings do raise questions about the current state of knowledge about black students' relationship to school and learning and the dominant view of black students as culturally opposed to achievement. In most cases, public statements regarding black students' negative attitudes toward school contain no qualifiers isolating the problem to black students from lower socioeconomic backgrounds or from particular schools or regions of the country. For these reasons, although the children in this sample cannot speak for all of their black peers, their words should not be dismissed.

While previous research on adolescents has tended to suggest a culture-based explanation of student attitudes (e.g., Fordham & Ogbu 1986), the findings of the present study suggest that the schooling experience, particularly achievement outcomes, plays a central role in at least the *development* of attitudes toward school. Children who were experiencing academic failure were more likely to express negative school-related attitudes than children who were not, and those attitudes were directly related to their achievement experiences. The children's negative statements about school reflected a desire to avoid further experiences of failure. This would imply a conceptualization of attitudes toward school as part of a developmental process rather than a specifically cultural one. It is not always apparent that previous theorizing on attitudes toward school takes this view. Therefore, although the "oppositional culture" theory does have its merits, it appears to be less useful for explaining the underachievement of middle-class black students at the elementary level.

Important research questions still to be addressed include the following: What happens during adolescence that may contribute to a change in attitudes toward achievement among students? Does this change manifest itself differently among racial groups? When does the change occur? Could negative attitudes found among some adolescents be masking other feelings (such as fear, hurt, or embarrassment related to poor academic performance)? As others have stated, a sense of academic competence may well be the most important variable in promoting school engagement among students (Braddock 1990; Frisby & Tucker 1993). Congressional testimony by Jomills Henry Braddock (1990) warned that children who "suffer a crisis in their academic abilities . . . will begin adopting counterproductive, effort-

avoidant strategies" (51). Some evidence of the onset of this process was found in the narratives of a few of the children in the present study.

It is interesting that we rarely find examples in the literature of adolescents expressing their feelings about achievement and failure in the way that the elementary school children did here. Is it no longer important to "feel smart" or be the "super person in class"? Does getting an A no longer make you want to say "Hallelujah"? Does it no longer make you feel good to have your parents be proud of your achievements? I suspect that the answer to all of these questions is "no" but that among adolescents, publicly owning these feelings is not acceptable. There is considerable evidence to support the assumption that the masking of feelings related to failure is an important piece of the puzzle. Evidence is found in Clark's (1983) interviews with low-achieving black students and in Claude Steele's (1992, 1995, 1997) work on stereotype threat and disidentification (see also Osborne 1995). While anti-school and anti-achievement attitudes may exist among black students, they are not as widespread as some reports would have us believe, and part of the explanation for those attitudes may be found in the school experience.

Notes

1. Not all oppositional behavior is resistance. Giroux (1983) uses the term *resistance* to refer to student behaviors that are rooted in "moral and political indignation" (288).
2. Weissert's interpretation of the report is not entirely accurate (see College Board 1999).
3. The researchers also conducted analyses using the eighth-grade sample, and their results were similar to those for older students.
4. The race of the student speaking is not specified in the article.
5. In other research I have conducted, I found evidence of a "burden of acting white" among black adolescents, but I am not convinced that Fordham and Ogbu (1986) found that particular burden in their data. In their study, no students reported being accused of acting white for high achievement. Instead, the authors interpret as cultural what appears to be a more general burden of high achievement.
6. The names of the city, all schools, and participants are pseudonyms.
7. The majority of nonparticipating students were high-performing students. All but four of them scored above the national norm on the Iowa Tests of Basic Skills (ITBS).
8. Four parents (three from Madison) could not be reached for interviews.
9. Although the household income of this sample is relatively high, I would not describe Madison as an affluent school. Surprisingly, with respect to the condition of the facility, Madison had more in common with low-income, inner-city schools than with more affluent suburban schools. For example, the school lacked air-conditioning, a gymnasium, and an auditorium. Madison was an old school, and it showed. The signs of disrepair were numerous, including a leaking roof (old metal buckets lined parts of the hallway

on rainy days), roaches, and rusty and broken playground equipment. As of this writing, renovations tentatively scheduled for the year following this study (1997-98) are still pending.

10. Quest is the school's gifted program. Brad is in Quest, but Trey and Allen are not.

11. I classify students as high achievers if their year-end GPA was B- or above and their ITBS scores were at or above the 50th percentile. In cases where GPA was not available (I have report cards for students in the interview sample only), I based this classification on ITBS scores, classroom observation, and teacher comments to me (in teacher interviews and informal conversations).

12. Unlike Madison, Alternatives did not have a program for gifted students. This may partly explain the finding that Alternatives students were somewhat less likely to ridicule one another for low achievement; the distinctions between high- and low-achieving students were not formally established and thus not as clearly marked. The other part of the explanation has to do with the Alternatives students' closer connection to one another due to their shared church membership. More than 75% of the students in the school were members of the church.

13. I am grateful to Reviewer 4 for identifying this distinction between smartness and "how students do smartness."

14. Of the 40 students interviewed, only 5 stated that they did not like school. All of the 5 students were struggling academically. In general, the better students thought they were performing academically, the more they seemed to like school. Nineteen students could be classified as low achieving, but again, most continued to hold out hope for better outcomes. I suspect they remained hopeful because of past successes and parental and teacher encouragement.

15. Ferguson argues that among black adolescents "students may hesitate to raise their hands in class, or seem too eager to learn because they fear social ostracism by their peers," and these are behaviors that surveys cannot capture (Cook & Ludwig 1998:394).

16. It is interesting how low-achieving students are able to turn the tables on the problem of achievement so that by adolescence, the social burden is on the high-achieving students.

17. However, teachers at both schools sometimes made comments to their classes comparing them to white students.

18. There were ways in which both schools unintentionally undermined these attempts. Although this is an important issue, it is beyond the scope of the present analysis.

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Asserting Difference: The Strategic Response of Nonprofit Organizations to Competition^{*}

EMILY A. BARMAN, *University of Chicago*

Abstract

Sociological research on nonprofit organizations has identified several strategies by which nonprofits may respond to environmental challenges. I explicate a strategic response that I call differentiation, and I locate the specific condition under which it is implemented, the condition of competition. I compare the strategic responses adopted by one nonprofit, a large United Way, in two different moments: a period of monopoly and a subsequent period of competition. I show that nonprofits differentiate themselves when facing a crowded market. Differentiation occurs when nonprofits work to convince other actors that they, rather than their competitors, deserve resources. They seek to assert uniqueness and superiority over their rivals by constructing a hierarchical relationship between themselves and others.

Sociological research on nonprofit organizations has identified several strategic responses to environmental challenges (Alexander 1998; Galaskiewicz & Bielefeld 1998; Oliver 1991). Their responses range from conforming with external rules and regulations to proactively shaping the environment. In this article, I contribute to work on organizational strategy by identifying a new response of nonprofits, one of *differentiation*. I also specify the condition under which nonprofit organizations implement this response, the condition of *competition*. To differentiate

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is to make oneself unique and distinct (Moore 1996). Differentiation occurs when nonprofit organizations encounter competition within their environment. Facing a limited amount of resources, nonprofits will seek to increase their share of a crowded market. They will work to convince other actors that they, rather than their competitors, deserve resources. To that end, they will assert their uniqueness and superiority over rivals. In order to make this claim of difference, they will construct a hierarchical relationship between themselves and their competitors based on particular criteria.

To explicate the concept of differentiation, I focus on changes that have occurred in the field of workplace charity.¹ Together, United Ways constitute one of the largest fundraising entities in the U.S., gathering \$3.5 billion in 1999 (United Way of America 2000). Over the last two decades, many local United Ways have had their monopoly of charitable contributions from the workplace challenged by other nonprofits.² I compare the strategic responses implemented by one United Way in two historical moments: an initial period of monopoly and a subsequent period when rival organizations emerged. Through a detailed historical analysis of this case, I show that nonprofits will demonstrate conformity with external rules and regulations when holding a monopoly, but will assert difference when competing with rivals for resources.

In the first section, I provide an overview of existing theoretical literature on the strategic responses of nonprofit organizations. The next section specifies the concept of differentiation and introduces the role of competition within the nonprofit sector. After presenting the data and methods, I then examine the trajectory of strategic responses adopted by the case study in a condition of monopoly and in a condition of competition. A concluding section summarizes the findings of this case study and addresses the implications of this strategy for the sociological study of nonprofit organizations.

The Strategic Responses of Nonprofit Organizations

The literature on nonprofits offers several organizational responses to environmental constraints and challenges.³ One strategic response of nonprofits is to conform to the environment. This view of the behavior of nonprofit organizations, associated with New Institutionalism (DiMaggio & Powell 1983; Meyer & Rowan 1977), departed from extant work, which had assumed that the structure of organizations resulted from actors' desire to maximize efficiency (Lawrence & Lorsch 1967; Thompson 1967).⁴ In this view, certain types of organizations, such as nonprofits, cannot objectively prove their fitness and lack proven methods to improve their functioning. They are embedded within the institutional environment, which consists of the everyday, taken-for-granted rationales that govern the structure of organizations (Meyer & Rowan 1977).

Nonprofit organizations not in conformity with external rules and regulations are often perceived to be illegitimate (Powell & DiMaggio 1983). As a result, some subsequent scholars have argued that the success of organizations depends on having legitimacy (Ashforth & Gibbs 1990), those symbolic structures and practices that signify compliance with institutionalized rationales. These isomorphic pressures tend to result in the homogeneity of organizations across a field (Clarke & Estes 1992).⁵

Oliver (1991) has criticized some of this initial research that highlighted the institutional pressures on nonprofits. She argues that these authors incorrectly posit that organizations can either choose to conform to institutional processes or have no choice in doing so.⁶ More recent research addresses these concerns, bringing an attention to self-interest and agency to the study of nonprofits. Drawing from resource dependency theory (Pfeffer & Salancik 1978), recent authors emphasize that nonprofit organizations, under certain conditions, are able to strategically manage institutional pressures (Edelman 1992; Sutton et al. 1994; Tschirhart 1996).⁷ Through the empirical study of both for-profit and nonprofit organizations, these scholars show that organizations may choose to adopt or to ignore specific institutional structures to further their own ends.⁸ Edelman (1992), for example, claims that firms implement diversity-friendly policies to garner legitimacy and outside resources rather than taking institutional structures for granted.

Nonprofit organizations may do more than strategically manage institutional pressures. In addition, they may act upon the environment themselves, a tactic that Oliver (1991:157) labels manipulation and Alexander (1998:278) labels exploitation. These authors demonstrate that, through a variety of tactics, nonprofits often work to proactively alter their institutional and funding environments (Alexander 1996; Gronbjerg 1993; Silver 1998). Of all available strategic responses, these entail the greatest degree of agency, action, and power on the part of nonprofit organizations. Nonprofits, for example, may establish new and preferable relationships with other actors through co-optation or other practices (Bielefeld et al. 1998). They may modify prior resource flows to suit their own ends (Gronbjerg 1993). They may attempt to refashion their institutional environment by shaping existing rules, regulations, and rationales for their own benefit (Hage 1998).

Drawing from a case study of a single United Way, I contribute to this recent research on the strategic responses of nonprofits by identifying an additional organizational strategy, one that I call "differentiation." I suggest that this strategic response occurs under a specific external condition, the condition of competition. While institutional pressures may lead nonprofits toward conformity, competition induces nonprofits to adopt the exact opposite strategic response. They will seek to demonstrate their difference from other members of their field. Although some authors have mentioned the strategy of differentiation briefly or in passing, none has offered a sustained analysis for the sociological study of nonprofit organizations

(Alexander 1996; Armstrong 1994; Han 1994; Zucker 1991). In this article, I provide such a sustained analysis of differentiation.

Differentiation and Competition

To differentiate is to make oneself unique or distinct (Moore 1996). Differentiation requires two distinct steps on the part of nonprofit organizations. First, under competition, nonprofits contend with rivals over a finite amount of external support. In response, they will seek to maintain or increase their share of a crowded market (Gronbjerg 1993). Nonprofits will work to convince environmental actors that they, rather than their competitors, deserve resources. To that end, organizations will present a claim of uniqueness or difference from rivals within their field. As Han (1994:655) has noted, "rivalry drives [organizations] . . . to avoid following what others have done and to stake out their own positions." A claim of difference, however, is not adequate in itself to raise funds when an organization faces competition.

Second, in order to differentiate themselves, nonprofit organizations must assert uniqueness based on a particular measure. Differentiation entails the construction of a hierarchical relationship between nonprofits and their rivals according to a certain scale. The specific criteria employed to assert difference are subject to some degree of proactive orchestration on the part of organizations. In some cases, nonprofit organizations may draw from objective measures in order to claim distinction within their field. As with for-profit organizations, the ranking of actors within a field may result from concrete scales such as size, revenue, or the percentage of revenue expended on services. Due to technological uncertainty and a lack of agreement over methods and goals, however, nonprofits also are able to construct a hierarchy according to a wide variety of other criteria. Some of these criteria are the specific resources or services provided, the individuals or groups assisted, the individuals or groups who make decisions, the process by which decisions are made, and the type of knowledge being implemented to make these decisions. Other criteria are, of course, possible.

Alexander (1996), in her study of changes in the funding streams of museums, has noted that the concept of differentiation focuses on the ecology of nonprofit organizations. Population ecologists (Aldrich 1979; Hannan & Freeman 1977; Hawley 1979) explain the success of organizational forms in terms of the composition of their environments. When only one or a few organizations exist within a particular ecology, then the acquisition of resources is not difficult. When multiple organizations exist and compete for resources, then organizations survive by filling distinct niches (Hannan & Freeman 1977). Organizations are able to fill environmental niches in one of two ways: either the environment selects the

organization according to characteristics it identifies or organizations may successfully adapt themselves to the demands of their environment.⁹

Differentiation, then, is an adaptive response by which nonprofit organizations attempt to identify and fill niches in order to successfully obtain resources in a crowded field. To make a claim of difference, organizations must exert agency of a rhetorical nature. To position themselves as unique or superior, nonprofits must shape the expectations and understandings of other actors and organizations within the field. They must propose a criterion for judgment and convince others of not only the suitability of that criterion but also their superiority according to it. Along a continuum of strategic responses of nonprofit organizations, differentiation falls at the end that emphasizes the ability of nonprofit organizations to alter their environment.

As with Oliver's (1991) organizational response of "manipulation," nonprofits differentiate themselves by working to alter their environment. They do so by influencing the values, norms, and criteria employed by other actors within the field. In Alexander's (1998) typology of organizational responses to environmental complexity, a strategy of differentiation exemplifies the response of "exploiting" the environment. Nonprofits differentiate by employing environmental complexity — the existence of competition — to reach their goals. The strategic response of differentiation extends recent sociological work that focuses on the proactive and agentic actions of nonprofit organizations. Still, it is important to emphasize that differentiation is a fundamentally cultural and social act. To convince other actors of their claims, nonprofit organizations are subject to and must draw from external and institutionally based definitions of success, merit, and prestige. Within these constraints, nonprofit organizations work to differentiate themselves from other organizations to obtain resources.

The need for the explication of the strategic response of differentiation is particularly necessary given the growing challenge of competition for nonprofit organizations. Differentiation occurs when nonprofits face competition for resources within their funding environment. In addition to shifting levels of government funding (Smith & Lipsky 1993) and increasing commercialization (Tuckman 1998), competition has emerged as a salient and pressing issue for nonprofit organizations. Competition refers to the simultaneous demand by two or more actors for limited environmental resources. The last three decades have witnessed a dramatic rise in the number of nonprofit organizations, increasing from 300,000 in 1967 to more than 1 million in 1998 (Weisbrod 1998). During this period, however, available resources have not grown at a similar rate (Hodgkinson & Weitzman 1997). Consequently, nonprofits are competing for a limited pool of resources in their organizational fields.

It is not surprising that the sociological analysis of competition within the nonprofit sector has proliferated in recent years. To date, these studies have focused on the consequences of competition for the structure, performance, and external

linkages of nonprofit organizations. Particular attention has been given to the impact of competition between for-profits and nonprofits on organizational efficiency, output quality, and output rationing methods, as well as other factors (Schlesinger 1998; Thorpe & Brecher 1988; Weisbrod 1998). These authors have been particularly concerned to determine whether competition negatively affects the provision of resources and services to clients, although the findings from these studies are mixed and inconclusive on such measures. Other scholars have analyzed competition between nonprofits within the same organizational field. They found that competition, as an environmental constraint, results in an increase in resources expended for fundraising (Steinberg 1987; Tuckman 1998). It may also lead nonprofits to diversify their revenue streams in order to minimize their dependence on resources obtained from crowded markets (Alexander 1998; Gronbjerg 1993; Powell & Friedkin 1987). Another body of work has examined the effect of competition on interorganizational linkages. It has identified those specific conditions of an organizational field that will tend to result in either cooperation or contention among its constituents (Bielefeld et al. 1998; Gronbjerg 1993).

Less sociological work has been conducted on the effect of competition on the rhetorical strategies and public presentation of nonprofit organizations.¹⁰ Relatively little careful and detailed attention has been given to the symbolic maneuvers of nonprofits to gain legitimacy or resources in a crowded field. One reason for this oversight results from the understanding of competition held by some scholars of the nonprofit sector. New Institutionalists, for example, recognize that all organizations must seek both legitimacy and resources (Scott 1997). Drawing from the assumptions of population ecology (Hannan & Freeman 1977), these scholars perceive competition to be an environmental constraint for those organizations largely subject to technical pressures (Meyer, Scott & Deal 1981; Tolbert & Zucker 1983). Here, competition occurs when organizations can be judged according to the effective and efficient control of their output (Powell 1991:184). Facing competition, these types of organizations adopt high standards of efficient internal production or they risk failure to better-adapted rivals (Orri, Biggart & Hamilton 1991). Given this particular definition of competition, competition is not a constraint for those types of organizations, predominantly nonprofits, that are largely embedded within the institutional environment and that do not produce goods or services that can be subject to standards of efficiency of output.

Nonetheless, nonprofit organizations are facing increasingly crowded markets. Rival nonprofits, however, cannot be compared based on their technical effectiveness and efficiency, which is due to the nature of their missions and methods. The issue then becomes one of how nonprofits attempt to gather contested and limited goods in a crowded field. In this article, I examine whether the extant literature on nonprofit organizations can be employed to satisfactorily account for the strategic responses of nonprofits in a condition of competition. To that end, I compare the range of strategies that one case study — the largest United Way in the U.S. — has

employed to obtain external resources in two different environments: in an initial situation of monopoly and then in a situation of competition.

The United Way and Workplace Charity

For most of the twentieth century, the United Way has been synonymous with the concept of workplace charity. The United Way contracts with work organizations in the business, government, and nonprofit sectors. These organizations, using United Way materials, canvass all employees once a year offering them the option to donate to the United Way through payroll deduction.¹¹ Their gifts are deducted by their employer from their wages or salary and paid in a lump sum to the United Way. Organizations like the United Way, which raise money for more than one nonprofit, are called *federated fundraisers*.

The United Way once served as a paradigm for the condition of monopoly within an organizational field. Indeed, the United Way was created to serve as the single fundraiser within the workplace. The United Way, then known as the Community Chest, was created by local elites and social service professionals in the Progressive Era, who wanted to apply the principles of efficiency and economy to the provision of welfare (American Association for Organizing Charity 1917; Community Chests and Councils 1937).¹² Since the 1910s, the United Way has held an annual campaign in communities across North America in order to solicit gifts from employees and corporations. It has distributed this revenue to member agencies within the health and human-services area, such as the Salvation Army, the Boy Scouts, the YMCA, and others, which must meet certain standards of financial and administrative management to receive funding (Brilliant 1990).

The "United Way," as a term, encompasses three distinct but interrelated entities. First, it refers to each of the more than 2,000 local United Ways that raise funds in their community. Each United Way is an autonomous organization, independently managed by a board of directors and accountable to its own community. Each local United Way, including the case study analyzed here, faces specific environmental challenges, including the amount of competition for workplace funds, and each local United Way responds to external pressures based on a variety of regional and organizational factors.¹³ The "United Way" is also used to discuss the United Way of America. The United Way of America is an independent organization, a trade association that provides policy guidance, training, and literature for local United Ways in return for a fee — a small percentage of their annual revenues. Finally, the "United Way" is often employed to describe the concept of federated fundraising in the workplace, and it tends to encompass the totality of local United Ways and the United Way of America. Thus, it has been reported that the United Way raised more than \$3.5 billion in 2000, despite the fact that this amount was gathered by local United Ways affiliated with the United Way of America.

For many local United Ways, competition has become a growing concern over the last two decades. Competition has appeared as “alternative funds” — other federated fundraisers — that have been permitted by various employers to participate in workplace campaigns alongside the United Way (Brilliant 1990). Alternative funds consist of federations of independent nonprofit organizations who typically hold a shared mission, often around identity or interest-based concerns.¹⁴ Examples of alternative funds include coalitions of health-research agencies, international service agencies, social action agencies, military and veterans’ groups, animal rights groups, children’s groups, gay/lesbian groups, Christian service organizations, educational charities, environmental agencies, women’s groups, arts organizations, and black, Hispanic, and Asian nonprofit organizations. The number of alternative funds has increased dramatically over the last two decades, from around 20 in 1978 to 230 in 1997. In 1998 alternative funds raised more than \$200 million (National Committee for Responsive Philanthropy 1998).

Competitors to the United Way entered the arena of workplace charity as a result of large-scale developments within the nonprofit sector. From the late 1960s on, the field of philanthropy experienced an explosion in the number of nonprofits, many oriented around advocacy, identity, and interest-based issues (Fink 1990). For many of these charities, their initial sources of funding, especially from the federal government and private foundations, became increasingly scarce in the late 1970s and early 1980s (Jenkins 1988). Consequently, nonprofit organizations looked to new funding arenas and new strategies for fundraising, and many attempted to enter the field of workplace charity.¹⁵ As a result of the initial dominance of the United Way, other funds have gained little access to workplace fundraising in many cities. Their presence has continued to expand, however, as a consequence of sustained litigation and a new management ideology in the workplace. In the 1970s, several nonprofit organizations made legal challenges to the monopoly of health and welfare nonprofit organizations within the federal government’s workplace campaign. By 1987 the government responded to these lawsuits by allowing most nonprofits to participate in its Combined Federal Campaign (Brilliant 1990; National Committee for Responsive Philanthropy 1998). This open-door policy has expanded, again often as a result of litigation, to many state, county, and city workplace campaigns. In addition, a small but increasing number of for-profit companies have opened their campaigns to include competition for the United Way. Many of these companies have been motivated by one current management ideology, exemplified by Total Quality Management, which stresses the relationship between employee participation and output quality and productivity. This management principle has been extended to workers’ benefits, resulting in many companies offering a selection of health insurance and 401(k) investment plans. In some instances, facilitated by new technology, corporations similarly have provided workers with a choice in the distribution of

their charitable gifts (Levy 1999), creating "open" campaigns that introduced competition for the United Way. By 1997 more than 10% of Fortune 500 companies allowed multiple federated fundraisers or charities to participate in their workplace campaigns (National Committee for Responsive Philanthropy 1998).

The United Way/Crusade of Mercy

This work examines the impact of competition on the strategic responses of nonprofits by analyzing a single United Way, the United Way/Crusade of Mercy (UW/CM) from 1985 to the present. The United Way/Crusade of Mercy was formed in 1934 as a centralized fundraising mechanism by a coalition of business, civic, and social service leaders (United Way/Crusade of Mercy 1990).¹⁶ Raising almost \$100 million in its last fiscal year, it funds more than 450 health and human-service nonprofit agencies and also funds assistance for approximately 2.5 million people in the city and 160 suburban communities (United Way/Crusade of Mercy 2000). As with other United Ways, the UW/CM is managed by a combination of staff and volunteers, with its board of directors consisting of representatives from corporations, member agencies, community groups, and others. The UW/CM has three functions: fundraising, needs assessment, and revenue allocation. It conducts an annual campaign during the fall of each year in public and private workplaces in a five-county region. Within each workplace, the UW/CM relies on employees who manage fundraising, ensuring that each worker is approached for a contribution. Second, the UW/CM determines the priority of needs through a citizen-review process. Using a variety of scientific measures from government and academic sources, volunteer-based committees determine the most needed health and human-services programs (Gronbjerg et al. 1996). Finally, the UW/CM provides funds to member agencies. These member agencies must fit certain criteria of sound financial and administrative practices and, in return, they receive base allocations — a fixed percentage of the UW/CM's total annual revenue.¹⁷ Agencies range from large, established nonprofits, such as the Salvation Army and the YMCA, to younger and smaller charities.

Given its history, studying the United Way/Crusade of Mercy allows for a comparative analysis of the strategic responses of nonprofits to two distinct environments: one of monopoly and one of competition. Figure 1 contains a timeline of changes in the environment and the trajectory of UW/CM responses from 1985 onward. From its formation until the late 1980s, the UW/CM held a near monopoly on workplace fundraising in the greater Chicago area.¹⁸ I find that in the initial period of study, as the sole fundraiser in Chicago area workplace, the UW/CM conformed to an external definition of a legitimate fundraising entity. From 1993 and on, as competition grew, the United Way/Crusade of Mercy evidenced an awareness of this challenge and a need to respond strategically to the

growth of rivals. Nonetheless, during this period, it continued to focus on a strategy of conformity. Finally, in 1999, it formally adopted a strategy of differentiation. In its practices and in its rhetoric, the UW/CM positioned itself as superior to its rivals, based on the benefits that it offered to individual donors.

Of course, assessing the impact of competition on the case study is complicated by the changing and shifting presence of other external challenges to the organization. In 1992, for example, media reports revealed that the president of the United Way of America, William Aramony, received a large salary and had extravagant spending habits. Further, the specific United Way under study has been affected by large-scale changes in its regional economy, by battles between itself and suburban United Ways, and by the growth of government funding of its member social service agencies (Gronbjerg et al. 1996; Haider 1997). In the following analysis, I separate out the effects of the Aramony scandal as well as other environmental constraints on the United Way/Crusade of Mercy from the effects of the emergence of competition.

Data and Methods

In this article, I draw from primary sources that document the inception, methods, and growth of the United Way, also called the Community Chest and the United Fund, among other names (American Association for Organizing Charity 1917; Community Chests and Councils 1937). I also examine secondary accounts of historical developments within the field of workplace charity (Brilliant 1990; Cutlip 1965; United Way of America 1977). To analyze the rise of competition in workplace charity, I conducted interviews with and gathered solicitation and financial data from fourteen local and national alternative funds. I rely on two major sources to study the contemporary United Way. I collected publicity material, research findings, and policy recommendations publicly disseminated by the United Way of America, the trade association for local United Ways.¹⁹ Over a nine-month period, I conducted participant observation at the United Way/Crusade of Mercy. I attended meetings, participated in the training of “loaned executives,” and visited local workplaces where fundraising campaigns were occurring. I conducted informal and formal interviews with approximately thirty UW/CM staff members and volunteers. In addition, I reviewed documents generated by the organization, including annual reports, donor guides, pledge cards, financial records, planning documents, training material, and research conducted by the UW/CM of its environment and its internal operation.

FIGURE 1: Timeline of United Way/Crusade of Mercy

Time Period	Key Events
Up to late 1980s	<ul style="list-style-type: none">· The United Way/Crusade of Mercy holds a monopoly as the sole fundraiser in workplace charity for the region. The United Way/Crusade of Mercy asserts its legitimacy by conforming to external definitions of a legitimate nonprofit.
Late 1980s–present	<ul style="list-style-type: none">· The emergence of competition for the United Way/Crusade of Mercy in the form of alternative funds. The United Way/Crusade of Mercy maintains its strategy of asserting legitimacy.
1992	<ul style="list-style-type: none">· Scandal of officer extravagances at the United Way of America. The United Way/Crusade of Mercy experiences a decline in contributions. It responds by implementing a policy of donor choice in 1994.
1993–99	<ul style="list-style-type: none">· The United Way/Crusade of Mercy articulates an awareness of competition and a need to strategically respond to its growth.
1999–present	<ul style="list-style-type: none">· The United Way/Crusade of Mercy formally adopts a strategic response of differentiation to competition.

A Display of Conformity

From its inception until the emergence of competition in the late 1980s, the United Way/Crusade of Mercy largely operated as a monopoly within the field of workplace charity.²⁰ Below, I examine the organizational strategy that the UW/CM employed in order to gather workplace contributions prior to the appearance of rivals. I argue that, to gather support and to establish public trust, the UW/CM conformed to external and preexisting definitions of a legitimate fundraising entity. First, I show that key constituents within the field of workplace charity shared a certain understanding of a legitimate nonprofit organization. I then explicate how the United Way/Crusade of Mercy consciously pursued a display of conformity with these standards. Finally, I analyze the structures of the UW/CM to show that it did indeed conform to these standards in its public presentation and external structures.

In this period of monopoly, the UW/CM both reflected and participated in the existing institutional definition of organizational legitimacy within the fundraising arena of workplace charity. Within the sociological study of nonprofits, legitimacy is understood to be conferred by constituents of the institutional environment, including regulatory structures, governmental agencies, laws, courts, and professions, as well as interest groups and public opinion (Scott & Meyer 1991). Up until the late 1980s, the field of workplace charity consisted of the United Way/Crusade of Mercy, member and nonmember charities, donors, workplaces (in the

public and private sectors), consumer watchdog organizations, the United Way of America, and others. An analysis of workplace charity shows that several constituents within the field held highly similar conceptions of a legitimate nonprofit. Three independent actors promulgated the same set of rules and regulations: consumer organizations, governmental agencies, and the United Way of America.

Consumer organizations aim to protect the interests of individual donors. These watchdog organizations — including the American Institute of Philanthropy, the Better Business Bureau, the Evangelical Council for Financial Accountability, and the National Charities Information Bureau — publish standards of operation by which nonprofits can be judged on their relative fitness. A second watchdog group consisted of those governmental agencies that oversee fundraising within national, state, and local public workplaces. For the United Way/Crusade of Mercy, these organizations included the Combined Federal Campaign and the Office of the Comptroller for the State of Illinois (Illinois 1983). In their ability to provide or deny resources and legitimacy for the UW/CM, both these entities, to reference Powell and DiMaggio (1983), served as a source of *coercive* isomorphism for the UW/CM. A final actor within the organizational field, the United Way of America, provides policy guidance, literature, and training for local United Ways (United Way of America 1984). By supplying shared norms and practices as well as reinforcing the networks of professionals, the United Way of America, following Powell and DiMaggio (1983), served as a source of *normative* isomorphism for the UW/CM.

From a review of their publications at the time, it is apparent that these three actors required that nonprofit organizations be oriented around two central principles:²¹ if they were to be allowed to raise and collect funds, they needed to be (1) efficient and effective and (2) accountable to external agencies. These two principles determined the optimal organizational structure and practices for nonprofit organizations. They involved such issues as fundraising and solicitation practices — a maximum percentage of revenue expended on services; governance — the independence of the board of directors; and public accountability — the availability of annual reports and audited financial statements.

Interviews with key staff and volunteers and an assessment of documents reveal that the United Way/Crusade of Mercy consciously strove to display these same requirements before other watchdogs within the field. First, the UW/CM, in its solicitation material, asserted legitimacy by publicly noting its compliance with the standards established by consumer groups, state law, and United Way of America. Repeatedly in solicitation material, for example, the UW/CM stated that it spent approximately ten cents per dollar on operating costs (United Way/Crusade of Mercy 1987). It emphasized that this amount was extremely efficient compared to the forty cents per dollar that the National Charities Information Bureau, one of the consumer watchdog organizations, had established as the sectorwide average.

Second, interviews with senior volunteers and staff show that they were aware of these externally generated requirements. Senior volunteers perceived that success in fundraising would follow from compliance with such requirements. A board member stated that one of the central challenges of the UW/CM, during the time she had been affiliated with it, had been to establish itself as an efficient and accountable nonprofit organization. The UW/CM, she claimed (even before the Aramony scandal), had had to battle an image of being just the opposite — “phenomenally bureaucratic, time-consuming, and wasteful of money.” When I asked how the UW/CM had tried to do so, she replied, “you know, we looked to United Way of America, other United Ways, and other stuff.” Another long-time senior volunteer said, “If we hadn’t tried to fit the definition of a good fundraiser, we couldn’t have had our success. It wasn’t enough to be the only game in town, we had to look good as well to get people to give to us.” This latter statement suggests that the United Way/Crusade of Mercy may have stressed its legitimacy in order to satisfy those members of the organizational field with real choice — the individual donors — who could have decided not to give to the UW/CM.

In consequence, in its organizational structure and in its public rhetoric, the UW/CM emphasized its conformity with the two criteria of external accountability and efficiency — both for itself and for its member agencies. The United Way/Crusade of Mercy holds a complex position in the field of workplace charity, in that it not only provides legitimacy to and gathers legitimacy from member nonprofit organizations, but it also must exhibit legitimacy itself so as to garner external support from corporations and individual donors. As a coordinating agency, the United Way provides a “Good Housekeeping” seal of approval to member agencies, which they then employ to gather other types of revenue, particularly through contracts with governmental agencies. One member of the board of directors, for example, noted that the “whole concept” of the UW/CM was based on “the Good Housekeeping Seal of Approval . . . to really assess and say to the public these are good folk or not good folk.” In consequence, in its public rhetoric, the UW/CM defended the legitimacy of both itself and its more than 450 member agencies.

To demonstrate external accountability, the UW/CM stressed that it was overseen by a local board of directors, allowing it to maintain responsibility to the greater Chicago community (Haider 1997).²² In its day-to-day activities, the UW/CM was managed by citizen volunteers, as opposed to a bureaucratic and paid staff, whose composition ensured accountability to the community. These volunteers, publicity material noted, “represented geographic areas throughout metropolitan Chicago” and they reflected the “cultural, ethnic and economic diversity of our metro area” (United Way/Crusade of Mercy 1990).²³ The UW/CM also was publicly accountable in that external professionals reviewed its financial and administrative practices (United Way/Crusade of Mercy 1993). In addition, the UW/CM efficiently raised and distributed its revenue. It maintained not only

an acceptable level, but moreover a relatively low level, of overhead. Almost 90 cents of every dollar raised was paid out to local charities (Haider 1997). This low level of overhead is possible because corporations bore most of the costs of fundraising. The UW/CM also attempted to demonstrate that it was efficiently and scientifically attaining its own specific mission. Its mission was to “increase the capacity of organized community health and human-service needs of people in the Greater Chicago area” (United Way/Crusade of Mercy 1993). The UW/CM’s goal, then, was to assist local agencies in providing an “infrastructure” of care to the community. This goal was attained through volunteer-driven community planning, which continues today. One annual report noted that the “United Way is community owned and volunteer driven. Volunteers, like you, help raise money. And volunteer boards identify community needs and distribute resources” (United Way/Crusade of Mercy 1991). This process identifies and prioritizes the human and social service priorities of the greater metropolitan area. Allocations are then distributed to member agencies based on their provision of programs that target these priority needs (Gronbjerg et al. 1996). Resources flowed from donors, through workplaces, to the United Way/Crusade of Mercy and then from it to recipient organizations, including both member agencies and short-term grant recipients (United Way/Crusade of Mercy 1990).

The UW/CM’s presentation of itself, however, contradicted the actual method by which resources were allocated. Meyer and Rowan (1977) note that institutional pressures toward conformity often result in a loose coupling between external and internal organizational structures. In this period of monopoly, the UW/CM provides a clear example of such an occurrence. While the UW/MC, in the late 1980s, did begin an objective measurement of the region’s needs, it did not link such demands to the actual distribution of funds by its member agencies. Base allocations to its member agencies remained fixed, from year to year. The organization does not require agencies to perform or provide any form of outcomes measurement. In essence, the UW/MC was presenting “ceremonial conformity” (Meyer & Rowan 1977) with a socially legitimating means of allocation.

Finally, the United Way/Crusade of Mercy applied these same criteria of external accountability and efficiency to its member agencies. Local charities needed to fit certain “strict criteria” of mission and methods in order to obtain membership with the UW/CM. First, agencies had been primarily concerned with the provision of health and human services or programs within the greater Chicago area. Members also had to meet standards of efficiency and accountability. They needed to deliver “high-priority programs and services in a cost-effective manner,” and they had to demonstrate sound financial and administrative management practices and be audited. In addition, members needed to be registered with the State of Illinois, they had to be overseen by an independent board of directors, and they needed to publish an annual report. Once accepted for membership, UW/CM agencies were

reviewed annually by volunteer-run committees, ensuring compliance with these two standards of efficiency and accountability.

The Emergence of Competition

Over the last decade, the UW/CM has faced a number of external and internal challenges, one of the most pressing being the emergence of competition. Competition has taken two major forms: alternative funds, as mentioned above, and donor designation. Beginning in the late 1980s, local alternative funds (federations of nonprofit organizations) appeared in workplace campaigns across the state, including an environmental fund, a women's fund, a social action fund, a black fund, and a health-research fund. They initially gathered resources from campaigns within the public sector, as the Combined Federal Campaign and the State of Illinois campaign were both opened for competition during the 1980s. The largest of these competitors, Combined Health Charities, which gathers funds for research on a variety of health issues, currently participates in almost ninety private and public sector campaigns across Illinois. In all, these local federations have grown at an annual rate of 5% to 15%. By 1997 they had raised over \$2 million, still only 2% of the amount gathered by the United Way/Crusade of Mercy (National Committee for Responsive Philanthropy 1998). National alternative funds also have formed a local presence in the state, including EarthShare, International Services of America, the United Negro College Fund, and many others. These national federated fundraisers are an increasing presence in local workplace campaigns, and they are now participating in the campaigns of several high-profile corporations. Their recent growth has caused great concern among volunteers and staff at the UW/CM.²⁴ A 1998 internal study of the UW/CM and its environment concluded that "competition has grown at an escalating and alarming rate" (United Way/Crusade of Mercy 1998c). For the UW/CM, open workplaces represented a loss of potential revenue.²⁵ Each dollar given to competitors was a "dollar taken from its own coffers" and from those of its own member agencies.²⁶

Competition from other federated fundraisers has not become a more prevalent and pressing issue for the United Way/Crusade of Mercy in part because of its own proactive maneuver of implementing a policy of donor choice. Donor choice allows donors to designate their contributions to any nonprofit organization through a gift to the United Way. Previously, donors could either contribute to the UW/CM (through payroll deduction or a one-time gift) or not participate at all. A policy of donor choice allowed employees several options: they could designate to "targeted areas" within the UW/CM system, including "nurturing children and youth, improving the quality of life for older adults and people with disabilities," and several others; they could give to other United Ways (presumably those of their home communities); they could send their gift to an affiliated or unaffiliated health and

human-services charity in the local community; or they could choose to contribute to an option called the "Community Fund." On the pledge card received by donors, the Community Fund was defined as the distribution of the gift to "organizations that local United Way volunteers have determined to be most effective and most efficient in meeting our community's critical needs" (United Way/Crusade of Mercy 1999b). The Community Fund was the UW/CM's traditional method of allocation, but now repackaged and presented as one choice for donors among many.

The decision by the UW/CM to adopt a policy of donor choice in the early 1990s followed a long and drawn-out interaction between actors within the nonprofit. Like other nonprofits, the organization was embedded within an uncertain and complex funding environment (Gronbjerg 1993; Powell & Friedkin 1987). The United Way/Crusade of Mercy must service two distinct funders — soliciting both employers, to gain access to their workplace campaigns, and employees, in order to obtain charitable contributions. Employers pose a specific set of problems. They act as gatekeepers, in that they decide what type of campaign will take place. That is, whether competition will exist for the local United Way. In 1992, following media reports of the United Way of America scandal, the United Way/Crusade of Mercy experienced a decline in revenue. In the next year, in response to this downward trend, according to a board member, the UW/CM turned to corporations for guidance on how to halt the decline in employee giving. As Pfeffer and Salancik (1978) have shown, nonprofits with declining revenue often allow funders increased participation in the organization. A small number of Chicago-area companies proposed that their employees be given choice in their donations, so as to decrease resistance to giving. The UW/CM acquiesced to this change, although it did not allow donor designation at all workplaces. Instead, according to one internal memo, it developed a Donor Involvement Program for those individual "companies wishing to give their employees the option of directing their charitable contributions to specific nonprofit organizations." To that end, the UW/CM implemented a policy of donor choice.

Since the introduction of donor choice, an increasing number of corporations have allowed for some form of donor control to be present in their campaigns. By 1997 more than 70% of local companies with workplace campaigns had some form of donor option in their campaign — either through the United Way or an open campaign (Haider 1997). Moreover, as shown in Table 1, donors increasingly were designating their gifts to specific charities, causes, or constituencies. Table 1 tracks the growth of earmarked gifts in nominal dollars. Gifts designated by donors increased from 3% of all funds in 1993 to almost 19% in 1998, more than a sixfold increase in only six years. In real dollar terms, contributors designated \$2.8 million in 1993, compared to \$18.4 million by 1998.²⁷ While this amount may still appear minimal, continued growth at the same rate appeared probable, given the existence

**TABLE 1: Growth in Donor-Designated Contributions to UW/CM 1993–1999
(in Millions)**

Year	Allocable Dollars	Donor-Designated Dollars	Total
1993	88.4	2.8	91.2
1994	85.2	5.5	90.7
1995	82.8	7.1	89.9
1996	79.9	9.7	89.6
1997	80.0	15.3	95.3
1998	79.6	18.40	98.0
1999	77.8	18.40	96.2

of other United Ways, which have as much as 80% of all funds earmarked by donors (Cordes et al. 1999).

Senior volunteers have called donor designation a “huge challenge” and “a threat for the United Way/Crusade of Mercy of the highest order and beyond.” Donor control over fund distribution poses three central challenges to the traditional UW/CM mission of fundraising, needs assessment, and allocation. It undermines the central function of the UW/CM itself as a coordinating agency for member charities (Litwak & Hylton 1962). Designation reduces the amount of money that the UW/CM allocates to its agencies, thus diminishing its importance as a fundraiser for them. From 1991 to 1997, for example, base allocations to member agencies in the Chicago area dropped by 40% (Haider 1997). Donor designation also threatens the UW/CM’s institutionalized role as a community planner. Charitable gifts are distributed to recipients according to new principles. The UW/CM claimed that its method of allocating funds was based the assessment and prioritization of community needs. The UW/CM asserted that when donors directed their gifts based on their own preferences, in contrast, revenue is directed toward agencies with high profiles and “brand names,” resulting in a lack of funding for small and unknown agencies or new and emerging social issues. Donor designation, finally, weakens the institutionalized role of the UW/CM as an accountability mechanism for the nonprofit field, one that guarantees the quality of recipient charities through the bestowal of a “Good Housekeeping” seal of approval. As a result, designation turns the United Way into a mere processor and pass-through point for donors’ contributions to any and all recipient organizations.

Given the growing threat of competition, the UW/CM has evidenced a longstanding desire to strategically respond to its changing environment. As early as 1993, when competition was present but still limited, a study of the UW/CM’s environment concluded that “The United Way system must adapt an enlightened posture that respects constructive competition while preserving the integrity of the citizen review process, and leveraging its comparative advantage” (United Way/Crusade of Mercy 1993). By 1997, a study of the central issues facing the UW/CM

resolved that, among multiple objectives, one central goal was to “keep UW/CM involved, acknowledge competition, and communicate UW/CM’s uniqueness” (United Way/Crusade of Mercy 1997). In the following year, a key committee recommended that the “UW/CM undertakes a focused communications campaign to present the case for unrestricted donations to the United Way rather than designations by donors” (United Way/Crusade of Mercy 1998b). In all, the UW/CM was aware of the growing threat and potential consequences of competition. From 1993, it fully intended, as apparent from the documents cited above, to implement a strategic response to competition.

Finally, in 1999 the UW/CM implemented a comprehensive strategic response to the emergence of competition. The UW/CM’s delay in formally responding to competition reflected more than the traditional dilemmas of nonprofit organizations, including complex goals, multiple constituencies, and fragmented environments (Alexander 1998). The delay also resulted from an awareness that the UW/CM’s response to competition was critical and would determine the future mission and practices of the organization (Haider 1997). Members of the UW/CM, for example, were aware that other United Ways that had followed the logic of donor choice, such as that of Washington, D.C., no longer functioned in their traditional capacity as a coordinating agency, but instead simply acted as a pass-through mechanism for donor-directed dollars.

An Assertion of Difference

As a result of increasing competition, either through open campaigns or donor designation, the UW/CM was faced with a new challenge, in that it now needed to convince donors to make a gift to it, rather than to a competing charity. While the UW/CM continued to display a concern for legitimacy, demonstrating through its public discourse and external structures that it was oriented around the principles of accountability and efficiency, its historical assertion of legitimacy was no longer sufficient to guarantee a contribution. Of course, the Aramony incident at the United Way of America may also have influenced donors’ actions. Beginning with the fall 1999 campaign, the UW/CM implemented a formal strategy of differentiation, which was intended to address the rise of competition. First the UW/CM highlighted the benefits of its traditional method of allocation, now renamed the Community Fund, through changes in its practices and through its public presentation. Then the UW/CM framed the Community Fund as superior to its competitors in light of the benefits that it provided the donor. The charitable gift was likened to an “investment,” and the Community Fund to a “mutual fund.” Specifically, the Community Fund offered a “return” on the donor’s gift that was not available through a gift to a competitor. This strategy of differentiation was based

on two central assumptions, discussed below, about donors' perceptions of and motivations for charitable giving.

The strategy of differentiation adopted by the UW/CM possessed a single and central message: It emphasized the superiority of the United Way's historical mission and method of allocations, now renamed the "Community Fund." The Community Fund consists of donors' unrestricted gifts that are allocated by the UW/CM to member agencies. The distribution of resources is based on the independent, volunteer-driven assessment of the priority of health and human-service needs of seventy-seven neighborhoods within the greater Chicago area, as well as an evaluation of the ability of member agencies to meet those needs. The Community Fund targets the community as a whole, helping "family, friends, and neighbors" and "people of need in all segments of society." Its mission is grand in scale, to improve the "general condition of the community," and members of the UW/CM describe the function of the Community Fund to be the provision of a "social service infrastructure" for the community.

The United Way/Crusade of Mercy pursued its emphasis on the Community Fund in two ways, through altering its practices and through its symbolic presentation. First, it limited its distribution of unrestricted contributions to the Community Fund. Previously, the UW/CM had allocated funds based on two different formulas: through the traditional method of the Community Fund and through a grant program. In prior years, the UW/CM had given out annual grants aimed at addressing immediate and pressing needs within the Chicago area, including racial discrimination, health priority, and human capital development. Lasting one to three years, the grants were competitively awarded to member and nonmember agencies. In 1998, the last year of the grant program, more than \$2 million in grants was distributed by the UW/CM to local health and human-service charities. In 1999 the UW/CM, in order to address the rise of competition and in response to increasing designation, halted the grant program and focused its allocation activities exclusively on the Community Fund.

Second, the UW/CM implemented its strategy of differentiation through its public presentation. The strategic response was emphasized in the solicitation material given to thousands of individual employees and to hundreds of senior executives and CEOs in participating workplaces. The rhetoric of UW/CM uniqueness was also present in the training of and information provided to those leading the campaigns: loaned executives and employee campaign coordinators. These campaign volunteers, as well as the United Way staff, were strongly encouraged to use this framing of the nonprofit. The discourse of differentiation was evident in the several kickoffs for workplace campaigns that I attended.

In its attempt to differentiate itself from its competitors, the UW/CM articulated a new frame for the Community Fund, by making an analogy between the donor's contribution to the United Way/Crusade of Mercy and an investment in a mutual fund. In its solicitation material, the UW/CM repeatedly notes that "Giving through

United Way is like investing in a mutual fund.” The *Concise Columbia Encyclopedia* (1995) defines a mutual fund as “a company that combines, or pools, investors’ money and, generally, purchases stocks or bonds. Mutual funds are designed to provide skilled management and diversification, thereby lessening risk. Earnings are distributed to shareholders in the form of income and capital-gains dividends.” This analogy creates new roles; donors become investors and the UW/CM becomes an investment manager. On the standard pledge form, for example, donors are asked if they would “like to invest in making a difference in this community” (United Way/Crusade of Mercy 1999b). As a senior staff member for fundraising put it, “Our story is so good, that if we can just get it out, people will *invest* in it.”

In its public material, the United Way/Crusade of Mercy presented a gift to the Community Fund as a superior selection for donors based on its benefits for them. This strategy oriented the UW/CM toward the needs and demands of the donor, as opposed to those of member agencies or the community, constituting a departure from the historical role of the UW/CM as coordinating agency for local charities. A senior executive, before this new strategy was implemented, asserted that the UW/CM needed “to get the allocations side looking to the campaign, to change the culture [of the nonprofit] to servicing the donor rather than the agencies.” Similarly, an internal report on the future of the United Way/Crusade of Mercy asked, “Up to now, the donor has been left out of United Way considerations. Now, the donor is being considered as part of the United Way design, but [the question remains]: how to satisfy the donor?” (United Way/Crusade of Mercy 1998a). One board member, when asked how the organization had changed over the last decade, noted that the UW/CM has “started talking about a market, about donors that have to be satisfied, rather than [the clients] served.”

The UW/CM employed the analogy of the mutual fund as a tactic of differentiation based on a central assumption or claim about donors. The nonprofit presumed that donors wanted the maximum philanthropic return on their gift. Just as individuals invest in mutual funds for the largest possible monetary gain, so are donors understood by the UW/CM to seek the biggest impact from their charitable gift. It is here, in the perceived demands and needs of donors, that the UW/CM asserts differentiation, where it claims its superiority over its competitors. The advantage of the Community Fund for donors takes two forms: the scale of the UW/CM’s assistance to the community and the services it provides for the donor.

First, recall that most competitors, either individual charities or federated funds, gather resources for a single issue, cause, or constituency. The UW/CM was certainly cognizant of the narrowness of its competitors’ missions. One 1993 report noted that “the number and variety of fundraising federations seeking access to the workplace has grown to a point where there are now funds for virtually every category of need (e.g., specialized medical needs, women’s issues, minority needs)” (United Way/Crusade of Mercy 1993). The UW/CM also made donors aware of

the nature of its competitors. One UW/CM pamphlet, addressed to corporate executives, concludes: "Unlike most charitable organizations that raise funds for a single cause, United Way addresses a wide variety of community needs" (United Way/Crusade of Mercy n.d.). A gift to one of these competitors, the UW/CM repeatedly asserts in its solicitation material, would result in a limited or minimal return on the donor's gift, especially when compared to the Community Fund. Just as a mutual fund has the benefit of scale and diversification, so too does the Community Fund of the UW/CM. An individual's charitable gift goes "further" when part of the Community Fund than when contributed directly to a charity. A list of "speaking points" for loaned executives, intended to familiarize them with key issues facing the UW/CM, includes the following query: "Why United Way? Why not contribute to other charities? Certainly, other organizations and causes are worthy of your charitable dollar. But not everyone has the personal wealth to make such a difference to so many people through the variety of human services that United Way funding provides." In one brochure for Employee Campaign Coordinators, the UW/CM favorably compares the "return" on an investment to the Community Fund to one made to charities that "target single issues or communities." It asserts that "there is no way any of us could contribute, on our own, to all the agencies, to half, to one-quarter, or even 1/10 of the agencies that benefit from your one gift to United Way" (United Way/Crusade of Mercy 1999c). To demonstrate this point, the United Way/Crusade of Mercy, in its solicitation material, bombards the donor with the sheer range, frequency, and volume of services and resources provided by its member agencies to the community. In a handout for campaign volunteers, the UW/CM lists its targeted areas of assistance as "poverty, homelessness, hunger, domestic violence, child abuse, health insurance, education, literacy, teen pregnancy, gang membership, juvenile delinquency, and alcohol or drug abuse." When individuals donate to the UW/CM, they receive a thank-you card that states, "Because you cared and because you gave, every 12 seconds, someone in Chicago and its surrounding suburbs will be helped." Another handout to employees notes that contributions to the UW/CM last year "touched" 862,000 children, 246,000 people with basic needs (including food and shelter), 211,000 individuals with disabilities, 274,000 seniors, 330,000 individuals needing counseling, and 100,000 individuals with health needs (United Way/Crusade of Mercy 1998b).²⁸

The UW/CM, second, asserted its superiority by claiming that it offered the donor a service that other competing charities did not. Just as a mutual fund offers expert financial advice to investors to maximize their investment, so too did the UW/CM claim that the Community Fund offered expert philanthropic advice for donors. Through the volunteer-driven assessment of need in 77 Chicago neighborhoods, the UW/CM constructs a priority of health and human-service needs and allocated funds accordingly to member agencies. Like other aspects of this strategy, UW/CM methods that had originally been implemented for the benefit

of member agencies and the recipient community was reframed in terms of the needs of donors. The United Way/Crusade of Mercy asserted its superiority over competitors by claiming that this was a service or “value” that other charities or federated funds did not offer the donor. A 1998 study of the UW/CM summarized this assumption: “when donors contribute to United Way, they expect that this organization is going to add some value which does not exist through a personal contribution to one or more human service agencies” (United Way/Crusade of Mercy 1998c). Members of the UW/CM clearly felt that the unique service of the UW/CM would appeal to donors. One board member claimed, in an interview, that “when donors do choose to give to UW, they feel UW provides value, can make an informed decision.” A 1998 external review of the organization concluded that “Donor designation will decrease as the value of United Way is realized” (United Way/Crusade of Mercy 1998a).

The appeal of this framing of the UW/CM was premised on the organization’s understanding of the concerns of donors. In this view, as the UW/CM solicitation material makes clear, donors feel that they do not possess a clear sense of how to make an efficient and accountable contribution. They are, the UW/CM asserts, overwhelmed and confused by the number and variety of competing charities now present in workplace campaigns. The Community Fund provides a solution to that dilemma. In a pamphlet published by the UW/CM for donors, potential givers are told that “It’s everybody’s job to ensure that we have strong, safe and nurturing communities. But sometimes we just don’t know how to help. That’s why United Way is here” (United Way/Crusade of Mercy 1998b). A senior volunteer concluded: “people purchase mutual funds, that is, choose United Way, when they don’t have a lot of information and they can’t spend the time that it takes.” In the United Way of America’s magazine, *Community*, this perception of the donor is clearly present: Donors “want to invest their money wisely, just as they invest other money in stock or bonds. . . . [P]otential United Way donors do not always know all the options available, the pros and cons of various investment vehicles, or how much to give to each charity” (Andreasen 1985:15). The former president of the United Way of America articulated this understanding of donors, stating that “giving to the United Way is saying ‘I know I don’t know enough to be able to commit my money wisely.’ It’s not a passive decision; it’s an active decision to let the allocations process work” (Cook 1979:48).²⁹

The assertion of differentiation by the UW/CM is perhaps most clearly articulated in a solicitation brochure that each potential donor within a workplace campaign receives from the UW/CM. The brochure, *Thanks for Asking* (United Way/Crusade of Mercy 1999a), contains a list of hypothetical questions about the United Way that might be posed by contributors and a series of responses from the UW/CM, articulating its mission and methods. After questions that address concerns about legitimacy and accountability, the brochure presents the following exchange:

There are so many worthwhile fund drives, why should I give to United Way?

Giving through United Way is like investing in a mutual fund: United Way is the most practical and easiest way to ensure that comprehensive services are there to help millions of people in Chicago and the suburbs. More than 450 local health and human service agencies receive funding from United Way, and your annual contribution to United Way allows you to help more than 2.5 million people who live in the Chicagoland area. No one else touches so many.

Here, the UW/CM acknowledges that multiple choices exist for donors. Moreover, it recognizes that its competitors are legitimate, by referring to them as "worthwhile." The question that remains is why donors should choose to contribute to the UW/CM over these other federated fundraisers and charities. In its response, the UW/CM asserts that it offers a unique benefit to donors, a return on their investment, due to the diversification and scale of its services. The strength of the UW/CM, as the list of facts and figures suggest, is the sheer volume of assistance offered to the community, assuring donors that their gift will make the largest impact possible. A gift to other charities, characterized by single issues and special interests, the UW/CM is implicitly claiming, would result in a lesser impact for the donor.

Facing competition, the UW/CM implemented a strategy of differentiation. It asserted its uniqueness and superiority over its rivals. The UW/CM chose to construct a hierarchy of nonprofits based the benefit — the investment return — that it offered to donors. The choice of this specific criterion for differentiation was not arbitrary. The particular criterion employed by the UW/CM to assert difference was shaped by two mechanisms: the missions of its competitors and the United Way's relationship with its member charities. First, to obtain charitable contributions, the UW/CM needed to position itself as different from its competitors. Therefore, the character of its rivals' missions limited the possible choices available to the United Way/Crusade of Mercy. Its competitors were characterized by narrow and targeted missions, particularly identity-based and interest-based federated fundraisers. As a result, the United Way/Crusade of Mercy chose to emphasize the width of services and its focus on the entire community. It is reasonable to assume that if its competitors had possessed a similarly broad mission, the UW/CM might have adopted a different criterion for differentiation.³⁰

Second, the UW/CM's response to competition was driven by its organizational structure. The United Way, as a coordinating agency, is limited in its scope of action by its dependence on its member charities (Polivy 1988). As Wenocur (1975) has noted, legitimacy for the United Way comes from the community's financial support of popular member agencies. Typically, United Ways will avoid change, conflict, and controversy in order to keep their confederations of charities (Brilliant 1990). Given these constraints, the UW/CM's decision to emphasize its traditional method of allocation, framed as the Community Fund, is not surprising. Contributions that were directed to the Community Fund ensured that member agencies received their allocations and maintained their relationship with the United Way/Crusade of Mercy.

Conclusion

Initial sociological research on nonprofits emphasized the institutional pressures that often led to compliance by nonprofits with external rationales (Ashforth & Gibbs 1990; Clarke & Estes 1992). More recent empirical work has stressed the self-interest and agency of nonprofit organizations (Alexander 1996; Gronbjerg 1993; Tschirhart 1996). These authors have noted the proactive abilities of nonprofits to manage and even manipulate their institutional and funding environments. Through the analysis of a case study, this article identifies a strategy of nonprofit organizations that has yet to be adequately addressed by the literature. Prior to the appearance of rivals, the United Way/Crusade of Mercy consciously attempted to conform with external rationales. The UW/CM asserted its legitimacy by displaying the efficient and externally accountable methods of itself and its member agencies. As competition emerged, in the form of alternative funds and donor choice, the UW/CM implemented a different strategy. It attempted to differentiate itself from its rivals in order to obtain contested gifts from donors.

Through its explication of the concept of differentiation, this article provides three areas for further research on the sociology of nonprofit organizations. First, I have argued that nonprofit organizations differentiate when they make a strategic claim of uniqueness and difference. Through symbolic maneuvers, they work to convince environmental actors that they, rather than their competitors, deserve resources. In order to differentiate themselves, nonprofits must assert uniqueness based on a particular measure or criterion. Differentiation entails the construction of a hierarchical relationship by nonprofits between themselves and their rivals according to that scale. The specific criteria employed to assert difference are subject to some degree of proactive orchestration on the part of organizations. The United Way/Crusade of Mercy compared itself with a mutual fund and a charitable gift to a financial investment. It claimed that, in contrast with other nonprofits within the field of workplace charity, it offered the highest return on contributions, due to its scale and the service that it offered to donors. I argued that this particular measure of difference was adopted by the UW/CM because of two mechanisms: the nature of its competitors' missions and its relationship with member agencies.

However, the UW/CM need not have adopted a rhetoric of giving as investing. The specific criteria employed to assert difference by nonprofits are subject to some degree of rhetorical maneuver on their part. One potential area of future empirical study is the identification of the full range of criteria available to nonprofit organizations when they assert uniqueness from rivals. In some cases, nonprofit organizations may draw from objective measures, such as the percentage of revenue expended on services, so as to claim distinction within their field. The lack of agreement over methods and goals, however, also allows organizations within the nonprofit sector to construct hierarchies according to a number of other measures. Competitors to the UW/CM, for example, contend that they offer recipient populations a more extensive and more "hands-on" form of assistance than the

minimal resources and services provided by United Way agencies. Gronbjerg (1993) demonstrates that some nonprofits, when facing a crowded market, claim that they are *more* legitimate than competitors in order to obtain external support, in that they are sanctioned by a greater number of legitimacy-conferring organizations. Certainly, nonprofit organizations are able to choose from a wide variety of other criteria by which they can claim uniqueness or superiority.

Second, I have claimed that the strategic response of differentiation is adopted by nonprofits when they face a specific external challenge, that of competition. Facing a densely occupied market, nonprofits will claim to be different and distinct from rivals. It was only when the field of workplace charity became crowded with rival fundraisers that the United Way/Crusade of Mercy implemented the new strategy of differentiation. Extant literature has identified a number of additional responses by nonprofits to competition. Nonprofits may manage competition by cooperating with or by co-opting other organizations (Galaskiewicz & Bielefeld 1998). They may choose to diversify their revenue streams in order to obtain access to resources from less densely occupied fields (Alexander 1998; Gronbjerg 1993; Powell & Friedkin 1987).³¹ The strategy of differentiation constitutes a new and important addition to this typology of strategic responses to competition. One resulting question, however, concerns why and when nonprofits adopt a strategy of differentiation as opposed to other responses to competition.³² To that end, it will be necessary to understand the role of various processes, including organizational characteristics, conditions of the field, revenue streams, and others that are involved in the decision by nonprofit organizations to implement one or more of these strategies when facing competition.

Finally, the scope of this article has been limited to the careful and detailed analysis of a single organization at two different points in time. As a result, I have been unable to fully examine the effect of competition on other organizations or on the organizational field of workplace charity as a whole. Nonetheless, the findings of my analysis compellingly suggest that competition may have important effects at the level of the field. Institutional pressures direct nonprofits toward isomorphism, resulting in the structuration of the organizational field (DiMaggio & Powell 1983). The pressures of competition induce nonprofits to adopt the exact opposite strategic response. Organizations seek to identify and fill distinct and different niches from one another (Alexander 1996). To do so, as I have argued, these nonprofits attempt to construct a hierarchy of comparison by which they come out on top. As a result, it seems likely that an organizational field characterized by competition will exhibit diversity across its organizational members. The field will become a fluid and shifting terrain, one in which nonprofits constantly negotiate and position themselves in relationship to one another. Further empirical research at the level of the organizational field, perhaps similarly examining a case study at two points in time, will help to more clearly specify the effects of competition on the nonprofit sector.

Notes

1. This article addresses how nonprofit organizations respond to the emergence of competition within their environment. The United Way possesses these characteristics and is therefore taken as a representative case. Many other types of nonprofits that rely on donations also face heightened competition for charitable contributions, including health organizations (Thorpe & Brecher 1988), educational institutions (Mauser 1998), and religious organizations (Vallet & Zech 1998). The findings of this article, therefore, will provide insights relevant to these other types of organizations.
2. See Cutlip (1965) for a discussion of how the United Way, then called the United Fund, consolidated its monopoly in the post–World War II period.
3. Alexander (1998), Oliver (1991), and Scott (1997), among others, provide typologies of the strategic responses of organizations to external constraints and challenges.
4. Empirical research on nonprofit organizations motivated the initial formulation of New Institutionalism (Powell 1991:183). Nonprofits exemplify those organizations subject to institutional pressures. They are regulated by government agencies and often rely on government funding (Hodgkinson & Weitzman 1997). They are located within an uncertain environment, relying on multiple and shifting sources of funding (Gronbjerg 1993). Professionals hold a central and defining role within the nonprofit sector, establishing the appropriate modes and methods of nonprofit structure and governance (Young 1987). Finally, because of the types of resources and services they provide, nonprofit organizations cannot be compared to one another according to the “bottom line,” the criterion of efficiency of production.
5. It is important to note that this particular interpretation of New Institutionalism is contested. Schlesinger (1998), for example, points out that the original authors (DiMaggio & Powell 1983) did not intend to assert that isomorphic pressures inevitably lead to conformity and homogeneity. Nonetheless, this reading has dominated much of the subsequent empirical research.
6. “Notably lacking from this literature, however, is explicit attention to the strategic behaviors that organizations employ in direct response to the institutional processes that affect them” (Oliver 1991:145).
7. In his groundbreaking article on the state of New Institutionalism, DiMaggio (1988) argues that an attention to interest and agency is necessary when studying certain aspects of organizations embedded within the institutional environment, specifically when examining the processes by which institutions emerge, are reproduced, and erode.
8. This shift, as Tolbert and Zucker (1997) note, represents a “fundamental confounding” of institutional and resource dependence theory.
9. Nonetheless, as Powell and DiMaggio (1991:66) point out, the literature within the school of population ecology gives very little attention — theoretical, empirical, or otherwise — to the adaptive strategies, whether successful or not, of organizations.
10. A notable exception is the study of the impact of competition on the perceptions of environmental actors. Weisbrod (1988), for example, explores how differences in

organizational form — between for-profit, private nonprofit, and religious nonprofit organizations — shape the preferences of consumers across types of nonprofit fields.

11. Although corporations also make philanthropic gifts to the United Way, employee contributions make up the bulk of the United Way's revenue: 80% of total giving (National Committee for Responsive Philanthropy 1998).

12. As a federated fundraiser, the United Way offers benefits to donors, by economizing fundraising costs and exercising quality control over recipient organizations (Rose-Ackerman 1988). It also serves as a coordinating agency and social planner for local charities who draw from the same pool of limited funds (Litwak & Hylton 1967; Polivy 1988).

13. Not all local United Ways, for example, use the same mechanism of allocation of funds. Some United Ways distribute relatively fixed funds to member agencies, while others give out annual grants to competing charities from the local community.

14. These nonprofit organizations form alternative funds only when raising funds within the workplace. Otherwise, when soliciting foundations, corporations, or individuals outside the workplace, these nonprofits raise funds by and for themselves.

15. Workplace charity, by its very nature, holds appeal for nonprofit organizations. Revenue is unrestricted and fundraising is extremely cost-effective because most of the expenses are borne by the workplaces themselves.

16. The United Way/Crusade of Mercy serves as the fundraising entity for the United Way of the greater Chicago region as well as a number of the smaller United Ways in the surrounding area.

17. See Rose-Ackerman (1988), for a discussion of the fixed and "hide-bound" nature of United Way allocations.

18. Like most other large United Ways, the United Way/Crusade of Mercy did face competition from health-research agencies, such as the American Cancer Society and the American Heart Association after World War II. As with many other United Ways, the UW/CM responded by incorporating these rivals into their membership.

19. This material, however, is limited, as the United Way of America is notoriously private about its practices and those of local United Ways.

20. In a small number of workplaces, the United Way/Crusade of Mercy competed with other fundraising entities, including a federation of health-research charities and the United Negro College Fund.

21. These documents include the published guidelines of charitable watchdog organizations, the state of Illinois's Voluntary Payroll Deductions Act, and various United Way of America publications (e.g., United Way of America 1977, 1984).

22. This emphasis on local accountability also reflects the Aramony scandal of the early 1990s as well as larger trends in the nonprofit sector toward accountability and outcome measures.

23. Although many of these sources are dated after the emergence of competition, they nonetheless typify the earlier discourse of the UW/CM, given that it did not formally respond to the presence of rivals until 1999.
24. One of these corporations, Sears, Roebuck, a national retail conglomerate headquartered outside Chicago, recently implemented an open campaign.
25. Whether or not open campaigns negatively affect giving to United Ways is a matter of much contention. Studies by Polivy (1985) and others, as well as anecdotal evidence from several corporations (Sebastian 1993), show that the presence of competitors increases giving to all participating fundraisers. The United Way of America, in contrast, claims that open competition reduces the amount of contributions that it receives.
26. Thanks to an anonymous reviewer for pointing out that every dollar lost for the United Way/Crusade of Mercy was actually 90 cents lost to member agencies, given that the UW/CM kept 10 cents of every dollar for its own overhead.
27. According to a senior executive at the UW/CM, health-research agencies, such as the American Cancer Society and the American Heart Association, and suburban United Ways receive the largest proportion of the donor-designated amounts.
28. In some ways, however, these statistics are misleading and overstate the scope of United Way assistance to the community. They represent the total number of people assisted by UW/CM's member agencies, even though the United Way/Crusade of Mercy itself only provides 3%, on average, of these charities' budgets.
29. It is interesting to note the date of these publications; other local United Ways and the United Way of America had to strategically respond to the rise of competition much earlier than the UW/CM.
30. Within population ecology (Aldrich 1979; Hannan & Freeman 1977), it would be correct to point out that United Way/Crusade of Mercy emphasized its generalist niche in response to the specialist niches taken by its competitors.
31. A desire to coordinate competitors was the original impetus for the formation of United Way, then called the Community Chest, in the 1910s (Litwak & Hylton 1967; United Way of America 1977).
32. Han (1994), in his study of the audit services market, found that only large firms pursued differentiation, while small firms implemented other strategies, including conformity with external rationales.

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Subordination and Violence against State Control Agents: Testing Political Explanations for Lethal Assaults against the Police*

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Abstract

This study examines the relationships between economic and political subordination and the use of lethal force against state officials charged with controlling the underclass. More specifically, it uses count estimators to assess the factors that lead to felonious killings of police officers in the largest U.S. cities. Economic and racial inequality and the presence of a black mayor are used to assess economic and political subordination. Threat effects are measured by the percentage of blacks and by growth in this percentage. With violent crime and social disorganization indicators held constant, the results show that police killings are most likely in cities with the largest differences in black–white resources, but the presence of a black mayor reduces these killings. In a supplemental analysis, the same factors explain the more common injurious assaults against officers. The findings suggest that forms of political subordination increase the probability of violence directed against the street-level state-control agents.

Can killings of police officers be explained by economic and political subordination? Many neo-Marxists and some Weberian conflict theorists view criminal violence against authority as inarticulate protest. Theorists who take this political stance hold that one, but not the only, use of law enforcement is to control the “dangerous classes” (Garland 1990). Bayley (1985) contends that the police act as “the cutting edge of the state’s knife” in these attempts to maintain order in stratified communities. Perhaps some of the violence directed at the police is due

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to primitive resistance against these unequal arrangements. If such a quasi-political explanation has merit, we can expect more officer killings in cities where economic and political subordination is greatest and conditions that magnify underclass grievances are most conspicuous. We therefore examine the relationships between the distribution of economic and political resources and felonious killings of police officers in the 165 largest U.S. cities.

We test such political explanations because research repeatedly shows that when conventional influence channels are closed, politically excluded groups are more likely to resort to violence as an alternative way to gain political ends (Jenkins & Schock 1992; Shorter & Tilly 1974; Tilly 1978). This violence will be aggravated when ethnic and economic differences coincide (Boswell & Dixon 1990; Jenkins & Schock 1992; Tilly 1978). Such overlapping distinctions magnify the effects of subordination by making it far more visible to the disadvantaged. Because racial conflicts have been so important in the U.S., we focus on racial disparities in economic resources as well as other cleavages.

Differences in economic resources contribute to political exclusion (Blalock 1967), relative deprivation, and perceptions that social arrangements are unjust. Therefore, enhanced violence against the state officials charged with controlling the underclass should be more likely where economic and political subordination is greatest. These political explanations imply that a greater use of lethal force against the police can be expected in economically or racially stratified cities where minorities have less political influence. We assess such accounts by examining the political and social determinants of the number of local police officers killed and assaulted.

Subordination cannot explain all violence directed against law enforcement officers, so we examine rival explanations. The primary alternative account holds that lethal assaults against the police are an outgrowth of ordinary criminal violence. If this competing view is correct, officer killings should be especially likely in cities with the most violent crime, but indicators of racial, economic, and political subordination should not have any explanatory power after violent crimes and the urban attributes that produce violent crimes have been held constant. Because social disorganization (Sampson 1987; Sampson & Wilson 1995) and other urban conditions may explain both violent crimes and violence against the police, we hold constant disorganization effects and other community characteristics that have explained conventional violent crimes in past research.

Research on the effects of minority threat show that racial divisions and political subordination produce more intense state efforts to control the underclass. Cities with more African Americans have larger police departments (Jacobs 1979; Liska, Lawrence & Benson 1981) with greater resources (Jackson 1989). Other findings show that department size is larger in the most economically stratified communities (Jacobs 1979). The use of deadly force by the police is more likely in cities with the most African Americans (Jacobs & O'Brien 1998; Liska & Yu 1992) and in cities

where the gap between black and white incomes is greatest (Jacobs & O'Brien 1998), but the presence of a black mayor reduces police killings of blacks (Jacobs & O'Brien 1998).

While these recurrent findings show that economic, racial, and political divisions produce enhanced state control, studies that test conflict explanations for the amount of force used *against* state control agents in cities do not seem to exist. We begin to fill this important gap by assessing the relationships between social divisions that are likely to have political consequences and officer killings. We focus on cleavages between whites and blacks in part because the number of officers killed by other minorities is so modest. Because the lethal assaults we analyze are not common, we estimate the models with Poisson regression. We then check our results by finding out if the most theoretically interesting explanatory factors account for the less unusual injurious assaults against police officers. Results from studies that assess many hypotheses are most accurate (Johnston 1984, note 14), so we employ an inclusive strategy, but this means the theoretical section cannot focus on just a few explanations.

Theory

We begin by first summarizing the theoretical debates about the political content of crime. We then develop hypotheses based on the theoretical reasons for thinking that two interrelated forms of subordination produce these killings. We begin with the conceptual basis for the effects of racial and economic subordination and then discuss hypotheses about the influence of political subordination. This section on theory concludes with the reasons for including violent crime, indicators of social disorganization, and other explanations in the multivariate analyses.

THEORETICAL DEBATES ABOUT THE POLITICAL CONTENT OF CRIME

Is crime a form of disorderly politics? In reaction against treatments of collective behavior that viewed these mass outbursts as irrational deviant acts, the first resource mobilization theorists about movements stressed contrasts between crime and disorderly politics. Tilly and his collaborators (Lodhi & Tilly 1973; Tilly, Tilly & Tilly 1975) claim that fluctuations in crime did not coincide with disorderly politics in France. Yet Gurr (1976) and his coauthors (Gurr, Grabosky & Hula 1977) find concurrent relationships between crime and civil strife in various nations, and LaFree and Drass (1997) use time-series methods and find evidence for concurrent relationships between black crime and civil rights protests in the U.S.

This dispute is partly based on disagreements about motives. While Marx and the early resource mobilization theorists saw crime as amoral and apolitical, ethnographers suggest that offenders often use ethical reasoning to select targets and justify their behavior (Anderson 1978; Katz 1988). Black (1983) argues that

many crimes stem from legitimate grievances held by the powerless who cannot seek remedies through conventional channels because their credibility is suspect. Turner (1969) provides additional support for this view in claiming that low-status citizens face far greater burdens when they seek official redress from mistreatment. Criminal acts directed against the powerful are an alternative way to express the resulting sense of injustice.

We believe that both interpretations are correct. Our core premise is that *many disorderly political acts and much behavior that is defined as criminal are indistinguishable because these acts are jointly motivated by a sense of injustice and by venal goals*. If this plausible assumption about inextricably mixed motives is right, forms of racial subordination and the perceptions of injustice that stem from subordination should help explain lethal assaults against the most visible public officials who control the underclass. If subordination accounts for severe violence against police officers after violent crime and criminogenic conditions have been held constant, the results will suggest that a significant number of these acts are at least partially motivated by political concerns.

Victimization patterns are inconsistent with efforts to treat crime as a form of political expression because most victims of crime are poor. Conflict theorists who try to account for conventional crime by viewing lawbreaking as embryonic rebellion have difficulty explaining why criminal violence directed against the powerful is so unusual. But a study that focuses on the political divisions that may lead to police killings is uniquely suited to assessing the explanatory power of this political account. By restricting our study to violence aimed at the officials who are charged with controlling those who benefit least from inequality, we can see if the latent conflicts produced by racial and economic disparities contribute to criminal assaults against the state agents who offer the first defense against underclass violence.

Political Theories about Economic Cleavages

Political influence is conferred by comparative economic advantage. Power is a relational attribute resting on differences in resources. If Blalock (1967) and others are right in claiming that money almost automatically confers power in advanced societies, an unequal distribution of this resource will not increase the political influence of the least affluent. Because political influence is at least partly based on such disparities in economic resources (Collins 1975; Weber 1968), sharp contrasts in the economic resources of blacks and whites should reduce the ability of African Americans to shape critical outcomes through conventional democratic channels. Even if the association between differences in economic resources and differences in political influence is not perfect, disparities in the resources of whites and blacks in many cities are substantial. Such sharp differences should interfere with African

American efforts to realize goals through conventional political means and make political violence a more seductive option.

At the individual level, socioeconomic status is a strong predictor of effective political participation. Differences in economic resources between groups therefore magnify differences in group political influence. Findings show that politically excluded groups are much more likely to use violence, particularly if this exclusion is based on readily apparent distinctions like race (Boswell & Dixon 1990; Jenkins & Schock 1992; Tilly 1978). In contrast to those who experience absolute poverty, resentments are far more likely among the relatively deprived because the less fortunate cannot avoid seeing how much more prosperous citizens are benefiting from social arrangements (Merton 1968). Vivid demonstrations of their powerless status in racially unequal cities should enhance African American feelings of unfair treatment.

It follows that restricted political influence channels and the increased feelings of relative deprivation that are due to racial differences in economic resources ought to combine to produce political violence directed against immediate authorities. For these reasons, we expect that *greater racial stratification should increase the amount of lethal violence directed against the street-level officials at the cutting edge of the state's efforts to control a predominantly racial underclass.*

Yet there is a more general form of economic inequality that does not depend only on racial differences. It is almost as plausible that the number of felonious killings of police officers would be greater in communities where the entire distribution of economic resources is allocated unequally. In such communities, the least affluent from all races should have diminished political influence and enhanced feelings of injustice. This hypothesis suggests that *the use of lethal force against officers will be more likely in the most economically stratified cities*, but these killings will not be due to economic differences that are based only on racial subordination.

Officers also may encounter greater amounts of deadly force in cities with more minorities or in cities with a growing minority population. Threat theories (Blalock 1967; Blumer 1958) suggest that racial conflict will expand in areas with larger minority populations or in areas where the minority population is growing. We can expect that *the need to control a large or a growing racially distinct underclass with little to lose and much to gain from redistributive violence may lead to more lethal assaults against the police.* Because a growing minority population may have little to lose and much to gain from redistributive violence, we can expect that the need to control a large or a growing, racially distinct underclass may lead to more lethal assaults against the police. Because violence against officers should be more likely in racially divided cities where the police are more likely to use deadly force against blacks (Jacobs & O'Brien 1998), the effects of black presence and growth in this presence should be examined as well.

Direct Political Explanations

William J. Wilson (1978) expresses some of our reasons for focusing on local politics when he writes that "racial strife has shifted away from the economic sector. The traditional racial struggles for power and privilege are now concentrated in the sociopolitical order. . . . The issues now have more to do with racial control over . . . *municipal* political systems than with the control of jobs" (121, our italics). If Wilson's claim about the importance of racial contests for political influence in cities is correct, the presence of an African American in the mayor's office may reduce the amount of violence directed at the most visible street-level authority figures.

Statements that a significant proportion of black criminal violence results from black reactions to their powerless status are not unusual (Cleaver 1968; LaFree 1982; Wilbanks 1985). Perhaps in cities where blacks have won the most important political office, the impetus behind this violence will be reduced. According to Clark (1994:33), the pattern of racial conflict "shifts in U.S. cities with black mayors whose presence dramatically signals that there no longer is a white political elite." These victories may be largely symbolic, but this symbolism evidently makes a difference because these black victories reduce African American feelings of powerlessness. In fact, Bobo and Gilliam (1990) report that African Americans who live in cities with a black mayor feel more politically efficacious than those who do not.

In cities with black mayors, normal democratic channels should appear to be more effective to blacks. After controlling for numerous explanations, Jacobs and Wood (1999) find evidence for such a demonstration effect, reporting that killings of whites by African Americans are reduced in cities with black mayors. These considerations suggest that *black inclinations to strike out against the most visible state control agents should be diminished in cities where an African American has gained the most prominent local political office.*

If the presence of black mayors has the expected negative effects on police killings, there may be an alternative explanation. In most cities mayors exercise substantial control over the police department. Where there is an African American mayor, police administrators have reasons to use their considerable influence over police conduct to curb at least some departmental practices that lead to violent confrontations with minorities. Probably for this reason, Jacobs and O'Brien (1998) report that the presence of a black mayor reduces police killings of blacks. To examine this alternative account, we see if the use of deadly force by the police matters. If altered police practices can explain findings that the presence of a black mayor leads to fewer killings of police officers, these findings should disappear after we hold constant the use of deadly force by the police.

National statistics show that blacks are far more likely to kill officers than their presence in the population would suggest. African Americans committed 39.6% of all police killings from 1981 to 1985 but only about 12% of the population was black. Because a much greater proportion of the population in the cities we analyze

was black (19%), hypotheses about various forms of racial subordination may explain these lethal events. Additional evidence supports a supposition that many of these acts are intentional. In contrast to less serious incidents, the offenders who committed the most violent assaults against the police were less likely to be under the influence of drugs or alcohol (Meyer et al. 1981).¹ These considerations suggest that hypotheses about racial subordination may have substantial explanatory power.

Yet a disclaimer is necessary. This analysis must use aggregate data. Inferences about individual motivations are not possible with such data, so we employ a different strategy. To address critics who claim that the behavior of economic actors could not be explained by neoclassical theories if the actors did not know the theories, economists developed “as if” explanations. Consider pool players without any conscious knowledge of physics. To be successful they must act *as if* they are experts in the application of Newton’s theorems even if they have had no exposure to academic physics and cannot articulate the mathematical concepts that explain their competitive behavior so well.

Although we need not take a position on the merits of rational choice, we use a similar approach. Suppose we find that the number of killings of police officers responds to political factors such as the presence of a black mayor or the degree of economic subordination. Such findings would indicate that these lethal assaults are at least partly motivated by primitive rebellion even if the killers cannot justify their acts with political concepts. If enough of these killings are partially inspired by a sense of injustice that is based on the forms of subordination, probably an analysis that uses aggregate data to isolate these political effects is the only practical way to detect the unexpressed political aspects of this violence (e.g., LaFree & Drass 1997). It also follows that because we use aggregate data, we cannot separate the police killings that are primarily political from those that are not.

Additional Controls: Violent Crime and Its Determinants

Prior quantitative work on the determinants of officer killings should help us select controls, few multivariate studies exist. Some (Cardarelli 1968; Lester 1978a, 1978b, 1982) report only bivariate correlations. Peterson and Bailey (1988) instead study rates in U.S. states. When they analyze yearly rates, they do not find effects perhaps because many states had no officers killed in that year. When they analyze rates averaged over four years — so that fewer states have zero scores and their dependent variable is not as censored — Peterson and Bailey find that more officers are killed in states with the highest divorce and poverty rates. States, however, are not the best unit. Urban conditions probably have the greatest influence on the number of these violent acts, but state-level means will obscure important community differences.

The prevailing view in the literature is that officer killings are a by-product of the amount of conventional interpersonal violence and the social conditions that produce this violence. Sampson and his collaborators (Sampson 1987; Sampson & Grove 1989; Sampson & Wilson 1995) have reawakened interest in social disorganization as an explanation for interpersonal crime. Because it is plausible that social disorganization will contribute to violence against the police, we must examine disorganization effects in this study.

While *relative* differences in the economic resources of entire groups lead to political subordination and perceptions of injustice, absolute poverty generates interpersonal violence largely directed at other impoverished victims. Because the interpersonal violence that stems from absolute poverty may spill over and produce officer killings (Peterson & Bailey 1988), poverty effects should be assessed as well. For similar reasons, the probability of lethal force against officers may be greater in cities with higher unemployment rates.

In addition to poverty, Peterson and Bailey find that officer killings are more likely in states with the most divorces. Many researchers report that such family disruptions lead to violent crime (Huff-Corzine, Corzine & Moore 1986; Messner 1983; Messner & Sampson 1991; Sampson 1987). The resulting domestic violence that the police must control can lead to violence directed against them (Rubenstein 1973). The percentage of female-headed families should also be examined because studies show that this family breakdown generates interpersonal violence (Sampson 1987). Crowding within dwellings may also produce interpersonal violence that overflows to produce more killings of police officers.

Residential segregation may matter for several reasons. In cities where the races live apart, the police should take greater care when they enter disadvantaged neighborhoods where the black underclass is concentrated. Increased prudence therefore could make officer killings less likely in the most racially segregated cities (Bailey & Peterson 1994). Alternatively, racial segregation may increase police killings because the concentration of a racially disadvantaged population may accentuate hostility and violent conflicts with law enforcement officers. Because we are uncertain about the sign of this relationship, the effects of this control will be assessed with two-tailed significance tests.

A use of force that is likely to result in a police officer's death is exceptionally hazardous and should be far less probable if circumstances increase the likelihood that the killer will be identified. Many studies show that violent crime is more prevalent in populous cities, probably because anonymity is such a crucial facilitating condition (Jackson 1984; Mayhew & Lvinger 1976). City size will be examined because the probability of successfully identifying offenders should be much higher in smaller communities. Yet such anonymity effects should start to taper off after a threshold in city size, so we anticipate nonlinear quadratic effects.

It also is reasonable to expect an interaction effect between city size and black presence. The joint presence of a large deprived black population in the most

populous cities may combine to substantially increase the number of officers killed. Blacks tend to be more visible than whites, but anonymity is a function of city size. The likelihood that a black who kills a police officer will be identified should be sharply reduced in the most populous cities. Hence, killings of police officers should be particularly likely in the large cities with the most black residents.

While it is plausible that political subordination in the past produced at least some of the forms of social disorganization enumerated in this section, in this analysis we focus on the direct influence of current indicators of political subordination after multiple dimensions of social disorganization and the interpersonal violence they produce have been held constant.

Methods

THE DATA AND ESTIMATION PROCEDURES

A study of officer killings in cities, rather than in larger aggregates like states, that uses an estimator designed to analyze unusual events should give more accurate results than studies that inappropriately use OLS to analyze censured rates (Greene 1993). We begin with the 170 cities with a population greater than 100,000 in 1980 and use data from that year or from 1979 (for income data) for the explanatory variables. We analyze 165 cities because segregation scores are not available for 5.

We sum the number of local police officers killed from 1981 through 1990 in these cities to reduce the effects of chance (studies often use such aggregations for this purpose; see Jacobs & O'Brien 1998; Liska & Yu 1992; Messner & Golden 1992). Because no information about the race of the offender or the victim is available at the city level, we must analyze all police killings. Hypotheses about racial subordination still may explain these acts because additional officers killed by blacks who are responding to racial subordination should increase the number of these events.

Officer killings are not common.² OLS gives inconsistent, biased estimates when the dependent variable is a restricted count, particularly when many cases have zero scores. We use Poisson regression because it gives unbiased, consistent, and efficient estimates in this instance (Greene 1993; Long 1997). All models that predict officer killings are estimated with Poisson, except for one that uses negative binomial regression to handle the overdispersion present in that model.³ According to Osgood (2000), because these count estimators are designed to estimate unusual events, using such procedures reduces the influence of chance occurrences.

Nevertheless, because these deaths are unusual, it is possible that the count results will depend on idiosyncratic occurrences. We therefore use the most important features of the statistical model developed to explain officer killings to predict a much more common form of violence against the police. In supplemental analyses that use OLS, we see if the less accurately measured but far more common

nonlethal assaults against the police that led to an injury can be explained with the subordination indicators that predict the number of officer killings.

In both the Poisson and the negative binomial procedures, Stata provides a method to control the risk of the outcomes in question. The literature on organizations suggests that increased departmental size will lead to greater administrative overhead and proportionately more sworn officers occupying administrative positions. In comparison to small departments, a reduced *proportion* of the number of sworn officers in the largest departments should be on the streets. In *all* count models we therefore use the log (all logs are to the base *e*) of the number of sworn officers as the exposure effect to adjust for officers at risk of being killed.⁴ Stata does not provide coefficients on the exposure variable, so none will be reported.

Measurement of Explanatory Variables

We measure economic inequality with a Gini index computed by the census on household incomes, while black–white differences in economic resources are assessed with the ratio of black-to-white median household incomes. In 13 cities black median household incomes were less than 55% of the equivalent figure for whites, but in 11 cities black median incomes reached at least 90% of the white figure, so there is substantial variation in this indicator. Threat effects are measured with the percentage of blacks and with the growth in this percentage from 1970 to 1980. Probably because FBI statistics show that other minorities commit few killings of police officers, attempts to use similar variables computed on Hispanics were unsuccessful. We use a dummy scored 1 for the presence of a black mayor and 0 otherwise.⁵

We assess family disruption with the percentage of the population that is divorced. This control variable is not of theoretical interest, so we maximize its explanatory power by using dummy coding without justifying the functional form of this relationship. We test this specification by including both the dummies and the divorce rate in continuous form. If coefficients on the dummies are significant, but the coefficient on the continuous divorce rate is not when both are in the same equation, these results will suggest that this nonlinear relationship is best expressed with dummies. We use the percentage of female-headed households to capture another dimension of family disorganization.

Violent crime is measured with the log of violent crime rates (we log variables to correct skewed distributions and reduce outliers).⁶ Some models include three census-defined regional dummies to control for cultural differences and other regional effects, while unemployment is measured with the census rate. We measure poverty with the log of the percentage of families below the poverty line. Crowding is assessed with the log of the percentage of dwellings with more than 1.01 persons per room.

TABLE 1: Predicted Signs, Means, and Standard Deviations of the Variables

	Predicted Sign	Mean	Std. Dev.
No. of police officers killed	None	1.418	3.130
Black/white median household income	—	.698	.117
Percent black	+	18.74	16.38
Growth in percent black	+	2.931	4.518
Ln violent crime rate	+	6.721	.590
Population ^a	+	34.20	65.29
Population ²	—	54.06	400.7
Percent divorced	+	10.08	2.468
2d and 3d quintile percent divorced	+	.394	.490
4th quintile percent divorced	+	.206	.406
5th quintile percent divorced	+	.206	.406
Black mayor	—	.061	.239
Economic inequality (Gini)	+	.406	.035
Residential segregation	+ or —	72.54	11.20
Percent black x population > 250,000	+	8.256	15.44
South	None	.352	.479
North central	None	.109	.313
Northeast	None	.230	.422
Ln crowding	+	1.428	.533
Ln percent poverty	+	2.300	.473
Percent female-headed black families	+	27.61	6.989
Percent female-headed white families	+	8.159	1.600
Ln murder rate	+	2.431	.861
Ln robbery rate	+	5.812	.771
Percent unemployed	+	6.774	2.727
Ln police killings of blacks rate	+	.906	1.423

^a Population divided by 10,000,000; population² divided by 10,000,000,000.

We use the rate of lethal force *by* the police against blacks calculated by Jacobs and O'Brien (1998). This outcome is measured with police killings of blacks per hundred thousand blacks from 1980 to 1986.⁷ Segregation is assessed with a dissimilarity index calculated by Taeuber and Monfort at the block level (see Messner & Golden 1992 for more discussion). Finally, in most models we gauge anonymity effects by including population and population squared plus a interaction term created by multiplying the percentage of blacks by a dummy coded 1 if a city's population was greater than 250,000.⁸

MODEL SPECIFICATION

Two coefficients should be negative. Because it is reverse coded so higher scores indicate diminished racial inequality, the black–white median income ratio should be inversely related to officers killed. We expect that the presence of a black mayor should reduce the number of officer deaths. Except for the regional dummies and segregation, the coefficients on all remaining explanatory variables should be positive. One of the more general specifications of the Poisson model that explains the number of police officers killed in these cities therefore is

$$Npkilled_i = b_0 + b_1 Black/white\ inc_i + b_2 Percent\ black_i + b_3 Gr\ p\ black_i + b_4 Black\ mayor_i + b_5 V\ crime\ rate_i + b_6 Pop_i + b_7 Pop_i^2 + b_8 Seg_i + b_9 Per\ divorced_i + b_{10} (Per\ black \times High\ pop)_i, \quad (1)$$

where *Npkilled* is the number of officers killed, *Black/white inc* is the black median household income divided by white median household income, *Gr p black* is growth in the percentage of blacks from 1970 to 1980, *Black mayor* is a dummy scored 1 for the presence of a black mayor and 0 otherwise, *V crime rate* is the log of the violent crime rate, *Pop* is city population, *Pop*² is the square of city population, *Seg* is the segregation index, *Per divorced* is the percentage of a city's population divorced, and *Per black x High pop* is an interaction term calculated by multiplying the percentage of blacks by a dummy scored 1 if a city's population was greater than 250,000. In other analyses, we examine the effects of income inequality, the poverty rate, the unemployment rate, crowding, the percentage of female-headed black and white families, the separate robbery and murder rates, dummy variables for the three census regions, and police killings of blacks.

Analyses

In addition to the national FBI statistics on the substantial percentages of African Americans who killed police officers, counts suggest that racial divisions may be as important in city-level analyses. Twelve officers were killed from 1981 to 1990 in the ten cities in the sample with the largest differences between black and white median incomes, yet only one of these deaths occurred in the ten most racially equal cities. An even sharper contrast emerges when we compare the number of these deaths in cities at the extremes in the presence of African Americans. There were 34 officer killings in the ten cities with the highest percentages of black residents, but only one officer was killed in the ten cities with the fewest African Americans. Although the FBI statistics and these bivariate relationships are suggestive, it remains to be seen if these factors will have as much explanatory power after introducing extensive controls. The predicted signs of the explanatory variables, and their means and standard deviations, are reported in Table 1.

Multivariate Analyses of Officers Killed: Count Models

Table 2 presents the initial multivariate analyses. In model 1 we begin with the most obvious specification and use inequality, the percentage of blacks, the ratio of black to white median incomes, segregation, the violent crime and divorce rates, population, and population squared to explain these deaths. In model 2 we replace inequality with the black mayor variable. In model 3 we add growth in percent black and the interaction between black presence and city size. In model 4, we add divorce rate dummies. In the last model we drop the ineffective continuous divorce rate measure and retain the variables with the most explanatory power.

If model 1 is estimated with Poisson regression, the chi-square goodness-of-fit test shows that overdispersion is present. Count models often fail this test due to the omission of important explanatory variables (Long 1997). Because Poisson is inappropriate but negative binomial regression overcomes this difficulty (Greene 1993; Long 1997), we use this procedure (but only for this model). We correct all standard errors in these count models with White's (1980) method because the residuals suggest that heteroskedasticity is present. Model 1 suggests that inequality and segregation are not associated with officer killings, but this evidence shows that lethal assaults against the police are more likely in cities with the most blacks and greater racial inequality. We find that higher divorce and violent crime rates increase the likelihood of these killings. The quadratic relationship between city size and officers killed supports expectations that anonymity effects, which start to taper off after a threshold in city size, produce such nonlinear relationships.

In model 2, we replace the Gini index with the black mayor variable. Because this and all remaining models pass the overdispersion test, we use Poisson regression.⁹ The results suggest that fewer officers are killed in cities with a black mayor. Segregation now passes a two-tailed significance test, while the factors that explained police killings in model 1 persist. In model 3 we add change in black presence together with the interaction between city size and black presence and find that killings of officers are more likely in the largest cities with the most blacks. Growth in the percentage of blacks leads to the same result.

The residuals suggest that nonlinear effects remain and the first three models do not pass the link test for specification error (Pregibon 1980). In model 4 we test a solution by retaining the divorce rate after we add dummy variables scored 1 depending on where a city placed in the five quintiles on the percentage divorced. We find that the coefficients on the dummies for cities in the second and third quintiles are effectively equal ($b = .9042$ vs. $b = .9181$), so we sum these dummies.¹⁰ In model 4, we find a nonlinear relationship between divorce rates and police killings that is best expressed with dummies because the divorce rate in its continuous form becomes insignificant after the divorce dummies are added. All subsequent models use dummies to gauge divorce effects because we must maximize the explanatory power of this alternative explanation.

TABLE 2: Negative Binomial and Poisson Models of the Determinants of the Number of Officers Killed

	1 ^a	2	3	4	5
Intercept	-3.3172 (-1.42)	-4.7410*** (-3.38)	-3.5748** (-2.64)	-2.8913* (-2.06)	-2.9475* (-2.52)
Percent black	.0168** (2.35)	.0269*** (4.78)	-.0056 (-.55)	.0006 (.06)	.0005 (.05)
Black/white median household income	-2.0012* (-1.99)	-1.3973* (-1.81)	-2.4832*** (-3.78)	-2.3660*** (-3.50)	-2.3589*** (-3.50)
Ln violent crime rate	.4938** (2.38)	.5395** (3.00)	.5127*** (3.07)	.4980** (2.97)	.4983** (3.00)
Population ^b	.0912*** (4.51)	.0177*** (9.18)	.0153*** (7.92)	.0169*** (10.12)	.0169*** (10.00)
Population ²	-.0020*** (-3.40)	-.0018*** (-7.06)	-.0016*** (-6.12)	-.0017*** (-7.69)	-.0017*** (-7.53)
Residential segregation ^c	-.0172 (-1.77)	-.0304** (-2.89)	-.0261* (-2.55)	-.0332** (-3.25)	-.0331** (-3.14)
Black mayor	—	-.7162** (-2.68)	-.7633*** (-3.67)	-1.1936*** (-4.70)	-1.1883*** (-4.76)
Growth in percent black	—	—	.0518** (2.93)	.0439** (2.49)	.0439** (2.49)
Percent divorced	.1047** (2.41)	.1266*** (3.43)	.1013** (3.00)	-.0060 (-.08)	—
2d and 3d quintile percent divorced	—	—	—	.9240*** (3.30)	.9087*** (4.61)
4th quintile percent divorced	—	—	—	.6987* (1.68)	.6706*** (3.11)
5th quintile percent divorced	—	—	—	1.1436* (2.07)	1.1056*** (4.44)
Economic inequality (Gini)	-3.2380 (-.65)	—	—	—	—
Percent black x population > 250,000	—	—	.0242*** (3.37)	.0262*** (3.76)	.0261*** (3.82)
Loglikelihood	-196.31	-195.04	-186.77	-180.53	-180.53
χ^2	259.47***	696.22***	989.99***	1212.86***	1201.44***
Pseudo R ²	.212	.429	.453	.471	.471

(N = 165)

Note: White corrected z-values are in parentheses. Exposure variable is number of sworn officers.

^a Model 1 estimated with negative binomial; all remaining models estimated with Poisson.

^b Population divided by 10,000,000; population² divided by 10,000,000,000

^c Significance determined with a two-tailed test (see text for rationale)

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

The variables that were influential in the prior models continue to explain officers killed. This dummy variable model and all subsequent models now pass the link test (Pregibon 1980). Finally, model 5 shows what happens after dropping the ineffective divorce rate variable in its continuous form. The same eleven variables again explain the number of officers killed. While these findings seem robust, they may change when other effects are held constant, so we conduct additional Poisson analyses.

In model 1 in Table 3, we see if the findings persist when we substitute the murder and robbery rates for the violent crime rates. In model 2 we revert to the violent crime rates and add the percentage of families below the poverty line and crowding. In model 3 we include dummies for region. In model 4 we add the percentage of white or black families headed by females and the unemployment rate. In the last model we add police killings of blacks per hundred thousand blacks to the variables in the best model.

When we use alternative measures of violent crime in model 1, we find that the murder rate is significant, but the robbery rate is not. Yet comparisons always suggest that the more comprehensive violent crime rate is the superior control. Model 2 shows that including the poverty rate and crowding does not change the findings. In model 3 we add the three regional dummies and find that the results persist. In unreported analyses (all unreported results are available on request) we use eight regional dummies to represent the more narrowly defined nine census regions but this substitution does not alter the results. Likelihood-ratio tests show that neither set of regional dummies is jointly significant. In model 4 we include the percentage of female-headed black and female-headed white families along with the unemployment rate, but the core results again persist.

In the last model we include police killings of blacks. If the presence of a black mayor reduces killings of police officers because the election of an African American leads to altered police practices and diminished police violence against minorities, the inclusion of this rate should reduce the coefficients on the black mayor variable. Yet the findings show that the police use of deadly force against blacks is irrelevant, while the presence of a black mayor continues to account for officer killings. In fact, the same eleven factors explain the number of felonious killings of police officers no matter what controls are introduced.¹¹

A Replication: The Determinants of Injurious Assaults against the Police

Yet because these deaths are unusual, perhaps the findings rest on a few idiosyncratic events. To see if the results persist if a related but more common outcome is analyzed, we assess the determinants of the rate of assaults on the police that led to an injury in 1981 and 1982. Such assaults are far more prevalent than officer killings. While the mean number of officers killed from 1981 to 1990 in these

TABLE 3: Additional Poisson Models of the Determinants of the Number of Officers Killed

	1	2	3	4	5
Intercept	-.0784 (-.07)	-3.0900** (-2.60)	-3.4267** (-2.76)	-3.1262** (-2.71)	-3.0393** (-2.50)
Percent black	-.0054 (-.55)	-.0022 (-.21)	-.0005 (-.04)	-.0001 (-.01)	.0002 (.02)
Black/white median household income	-1.7893** (-2.68)	-2.2225*** (-3.22)	-1.6003* (-2.05)	-1.8382* (-1.89)	-2.4439*** (-3.45)
Ln violent crime rate	—	.4055** (2.37)	.4327** (2.33)	.5892** (2.78)	.5240** (2.78)
Population ^a	.0135*** (7.27)	.0162*** (8.01)	.0177*** (9.60)	.0170*** (10.69)	.0171*** (9.43)
Population ²	-.0012*** (-5.06)	-.0016*** (-6.03)	-.0018*** (-7.11)	-.0018*** (-8.05)	-.0018*** (-7.04)
Residential segregation ^b	-.0304** (-2.89)	-.0327** (-2.81)	-.0290* (-2.46)	-.0306** (-2.98)	-.0333** (-3.13)
Black mayor	-.8910*** (-3.94)	-1.1724*** (-4.65)	-1.2060*** (-4.59)	-1.1605*** (-4.91)	-1.2065*** (-4.72)
Growth in percent black	.0385* (2.16)	.0471** (2.47)	.0498** (2.39)	.0617*** (3.46)	.0451** (2.49)
2d and 3d quintile percent divorced	.7541*** (3.37)	.9058*** (4.55)	1.0172*** (4.86)	.8162*** (3.22)	.9167*** (4.70)
4th quintile percent divorced	.4246 (1.51)	.7052*** (3.06)	.7350*** (3.11)	.4865* (1.94)	.6895*** (3.10)
5th quintile percent divorced	.8871*** (3.08)	1.1794*** (4.12)	1.1718*** (4.85)	.8393*** (3.19)	1.1247*** (4.49)

(Continued)

cities is 1.42, the mean number of assaults against officers in 1981–82 is 64.5 and only four cities had no injurious assaults (the mean injurious assault *rate* is 16.2 per hundred thousand). To create a normally distributed dependent variable, we compute the square root of these rates and estimate with OLS.

The variables in Table 4 are almost identical to those used to explain officer killings. We continue to gauge subordination with the same measure of economic differences between the races and with the presence of a black mayor. We again enter black presence, segregation, police officer presence, violent crime rates, population, poverty, and the interaction between population and black presence. In model 2 we add regional dummies. The regression approach we use in this

TABLE 3: Additional Poisson Models of the Determinants of the Number of Officers Killed (Continued)

	1	2	3	4	5
Percent black x population > 250,000	.0295*** (4.57)	.0265*** (3.90)	.0267*** (3.81)	.0260*** (3.87)	.0267*** (3.78)
Ln murder rate	.4884* (2.25)	—	—	—	—
Ln robbery rate	-.1652 (-.86)	—	—	—	—
Ln crowding	—	.1313 (.75)	—	—	—
Ln percent poverty	—	.2089 (.54)	—	—	—
South	—	—	.0766 (.28)	—	—
Midwest	—	—	-.2780 (-1.02)	—	—
Northeast	—	—	.1872 (.65)	—	—
Percent female-headed black families	—	—	—	-.0224 (-.39)	—
Percent female-headed white families	—	—	—	.0026 (.03)	—
Percent unemployed	—	—	—	-.0452 (-1.22)	—
Ln police killings of blacks rate	—	—	—	—	-.0313 (-.38)
Log likelihood	-181.84	-180.00	-178.88	-178.69	-180.46
χ^2	1231.05***	1187.32***	1399.48***	1312.53***	1204.56***
Pseudo R ²	.468	.473	.476	.477	.472

(N = 165)

Note: White corrected z-values are in parentheses. Exposure variable is number of officers.

^a Population divided by 10,000,000; population² divided by 10,000,000,000

^b Significance determined with a two-tailed test (see text for rationale)

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

TABLE 4: Multiple Regression and Errors-in-Variables Regression Estimates of the Determinants of the Square Root of the Rate of Injurious Assaults on Police Officers

	1	2	3 ^a
Intercept	-2.7778 (-.82)	-.4939 (-.14)	-3.4878 (-.93)
Percent black	-.0189 (-1.48)	-.0121 (-.86)	-.0164 (-1.21)
Black/white median household income	-1.8794* (-1.83)	-2.3666* (-2.13)	-2.6112** (-2.47)
Ln violent crime rate	.8199** (2.93)	.8906** (2.96)	2.4769*** (3.13)
Ln population	-.1862 (-.88)	-.2017 (-.95)	-.3105 (-1.49)
Residential segregation ^b	-.0416*** (-3.34)	-.0380** (-2.56)	-.0486*** (-3.26)
Black mayor	-1.3730** (-2.41)	-1.4379** (-2.49)	-1.5762** (-2.86)
Percent poverty	.0691* (1.68)	.0565 (1.30)	-.0315 (-0.54)
Ln police per capita	1.3463** (2.87)	.8711 (1.57)	-.0358 (-0.05)
Percent black x population > 250,000	.0225* (1.80)	.0246* (1.95)	.0274* (2.29)
South	—	-.2344 (-.58)	.3370 (0.72)
Midwest	—	.1326 (.35)	.7102 (1.58)
Northeast	—	.5594 (1.17)	1.3220* (2.29)
R ²	.305***	.318***	.389***
R ² (corrected)	.264***	.264***	—

(N = 164)

^a Model 3 estimated with errors-in-variables regression using a reliability of .75 for the violent crime rates.

^b Significance determined with a two-tailed test (see text for rationale).

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$ (t-values in parentheses)

supplemental analysis lets us assess another potential difficulty. Perhaps a reduction in the measurement error in the violent crime rates would alter the conclusions. The exact error in these crime rates is unknown, but a procedure called errors-in-variables regression will show what happens to the other results if we assume a large but hypothetical degree of error in these rates. Model 3 presents these adjusted results.

The results in model 1 largely replicate those found in the prior analyses of officer killings. Both forms of racial subordination continue to explain these injurious assaults. The coefficients on the city size–black presence interaction term again suggest that serious violence against the police is more likely in the largest cities with the most African Americans. When we add the three regional variables in model 2, we find that the theoretical implications are left unchanged. When we reestimate model 2 with an errors-in-variables regression and stipulate a crime rate reliability of just .75, the coefficients on the two most theoretically important subordination variables become stronger and the same factors continue to explain the assault rates (compare the results in model 3 to those in model 2). Such findings suggest that the most theoretically interesting results are not based on measurement error in the violent crime rates.¹²

We therefore can conclude that the core findings persist when we analyze a quite different and far more common form of serious violence directed against the police with differing statistical procedures. Although these injurious assaults against police officers are not measured as accurately as officer killings, the similarities between these two sets of results suggest that the findings about the determinants of lethal force against officers do not rest on a few idiosyncratic events. A related analysis suggests that the conclusions are not based on measurement error in the violent crime rates. The same theoretically important political indicators account for serious violence against these state agents no matter how this outcome is measured.

Additional Methodological Considerations

Unreported findings show that adding income inequality to the full Poisson model, using separate racial poverty rates, including the rate of deadly force used by the police against all citizens (rather than only blacks), or restricting the analysis to the 104 cities with populations greater than 150,000 (and sharply reducing the percentage of cases with zero scores) has no effect on the theoretical conclusions. No other statistical interactions appear to explain this outcome.

The best Poisson models pass two specification tests. Omitted explanatory variables lead to overdispersion (Long 1997) and make Poisson regression inappropriate, but the appropriate chi-square test indicates that this difficulty is not present except for the first restricted analysis with omitted variables. After

dummies that capture the nonlinear relationship between divorce rates and officers killed are included, the models pass the link test for specification error (Pregibon 1980).¹³ This evidence suggests that omitted variables or other specification errors are not biasing the findings.

Perhaps cities with black mayors have fewer police deaths because they have more black officers. Yet this alternative account seems dubious since *black officers are more likely to be killed than their white counterparts*. Geller and Scott (1991) find that black officers in Chicago were almost three times as likely to be shot by civilians as white officers, and Fyfe (1981) reports similar ratios in New York. National data on the race of officers killed confirm these local findings. These results and the literature suggest that officer duties are more important than their race, yet it is unfortunate that data on officer race in these cities does not seem to exist. A related claim, that racial inequality explains these killings because it produces additional violent crimes, is implausible because various measures of violent crime have been held constant.

While these coefficients are statistically robust, perhaps the size of the point estimates will suggest that substantial changes in the political explanatory variables will produce only trivial changes in the number of officers killed. To assess the strength of the most theoretically important relationships, we estimate expected changes in officers killed using the coefficients from model 5 in Table 2. We use the mean on the interaction term for those cities not scored zero on this variable and we place cities in the highest divorce rate category, so all divorce rate dummies except the one for cities with the most divorces are held at zero (see Long 1997 for a discussion of these techniques).

With all other explanatory variables set equal to their means, calculations using the coefficients from the best model suggest that cities with a black mayor, rather than a white mayor, will have 1.029 fewer officers killed. When we compute differences in expected deaths based on a shift in the ratio of black to white median incomes from its 10th percentile to its 90th, we find that the number of officers killed should increase by .655. Because the mean number of these killings is 1.42, the most theoretically important relationships do not appear to be trivial.¹⁴

Discussion and Implications

A SUMMARY OF THE RESULTS

The main issue that prompted this research is the association between forms of political subordination and killings of police officers. The results show that two theoretically important political effects always explain these killings, yet other findings should not be ignored. Poverty, crowding, and unemployment are unrelated to these deaths, but the evidence about family disruptions is mixed. We find that officers are more likely to be killed in cities with higher divorce rates, but

the presence of female-headed families does not explain these lethal events. As expected, the findings indicate that cities with the highest violent crime rates have more officers killed. Such results support the conventional wisdom and increase the credibility of the findings, yet disorganization and interpersonal violence clearly are not the only explanations.

Deadly force against these state officials also is more likely in larger cities. The quadratic relationships we find suggest that anonymity helps explain officer killings. As cities grow, the likelihood of identifying assailants should not continue to decrease at the same rate. Our nonlinear results support this expectation because they show that the relationship between city size and officers killed starts to taper off after city populations go past a threshold.

These combined findings do not support claims that the forms of social disorganization that predict police killings are somehow political. Only the divorce rates, city size, and the violent crime rate indicator of interpersonal violence that primarily victimizes the poor have significant relationships in the proper direction. It is difficult to see how a political perspective could account for such results.

These killings are reduced in racially segregated cities, but this result probably is due to foresight. In cities where the black underclass lives apart, the police should be especially wary when they enter such districts (Bailey & Peterson 1994). One precaution is remarkably effective. According to the FBI, officer deaths due to felonious causes have fallen because officers now are more likely to wear bullet-proof vests in dangerous situations. As we expected, the number of officers killed is greater in cities with the most African Americans, but this relationship interacts with city size. Probably because anonymity is such a crucial facilitating condition, we find that a connection between the percentage of blacks and the use of lethal force against the police is present only after city populations reach a threshold.

Yet the most theoretically noteworthy results concern economic and political subordination. The number of officers killed is greater in cities where the gap in racial economic resources is most pronounced, but the presence of a black mayor reduces these killings, and neither relationship is trivial. Our added finding that the same indicators of political and economic subordination explain the far more common injurious assaults against the police suggests that such conclusions are not based on a few idiosyncratic events. We emphasize the findings about officer killings because the statistics on this outcome are more accurate than the data on injurious assaults. Nevertheless, the same political factors continue to explain serious violence against the police when we use a different statistical approach to analyze the far more common injurious assaults.

Theoretical Implications

Multivariate analyses of aggregate data can detect previously hidden relationships. In this instance, the results show that several unexpected associations are present. Black economic subordination and the presence of a black mayor explain the use of deadly force against the police after absolute poverty rates, economic inequality that is not based on racial differences, the police use of deadly force, and many additional explanations have been held constant.

Political influence is conferred by comparative economic advantages (Blalock 1967; Weber 1968). When these comparative economic differences coincide with ethnic differences, the conflicts that result from political exclusion will be sharpened (Boswell & Dixon 1990; Jenkins & Schock 1992; Tilly 1978). Because social scientists with various theoretical outlooks see power as a relational attribute that is based on differences in economic resources, substantial discrepancies in the economic resources of blacks and whites should not increase black perceptions that they control important political outcomes.

Much research shows that politically excluded groups are likely to resort to violence to gain political ends that the unexcluded can acquire with conventional political tactics (Jenkins & Schock 1992; Shorter & Tilly 1974; Tilly 1978). In contrast to absolute poverty, comparative differences in the resources of entire groups and the relative deprivation that results from these disparities lead to perceptions of unjust treatment. For all of these reasons, findings that differences in the economic resources of blacks and whites produce greater violence against the police seem plausible.

The robust negative relationship between the presence of a black mayor and these killings after the police use of deadly force against blacks has been held constant makes this political case more compelling. A suspicion that many officer killings are partially motivated by political considerations is corroborated by findings that officer deaths are substantially reduced in cities where a black has won the primary political office. Evidence that these black political successes reduce black feelings of powerlessness (Bobo & Gilliam 1990) and findings showing that black killings of whites are less likely in cities with a black mayor (Jacobs & Wood 1999) enhance the credibility of this political interpretation. In cities with black mayors, conventional influence channels should appear to be more effective to African Americans (Clark 1994). These results suggest that such demonstrations of a racially open polity lead to a reduced use of deadly force against the officials who act as "the cutting edge of the state's knife" and specialize in using force to control the underclass.

Research in criminology motivated by conflict theory has focused almost entirely on the behavior of control agencies. Some investigations assessed conflict explanations for police department resources (Jacobs 1979; Liska et al. 1981; Jackson 1989). Others show that conflict hypotheses explain the use of deadly force by the police (Jacobs & O'Brien 1998; Sherman & Langworthy 1979), arrest rates

(Gove, Sullivan, & Wilson 1998), and fluctuations in imprisonments (Chiricos & Delone 1992; Jacobs & Helms 1996; Parker & Horwitz 1986).

Yet this literature almost completely ignores reactions to state control efforts and treats target populations merely as passive objects. This study examines the other side of the reciprocal relationships between the state and problem populations. While prior studies show that economic and political subordination help explain the repressive behavior of state agencies that specialize in social control, this study shows that these same conflict hypotheses help account for serious violence used against the state officials who are on the front line of the ongoing struggle to control the underclass.

Results showing that killings of police officers are more likely in cities where the gaps between black and white economic resources are greatest and where blacks have less political influence suggest that the economic and political subordination of African Americans has costly side effects. Perhaps we should not be surprised that those who undertake the thankless task of controlling the potential violence that stems from a racially unequal society face deadly risks. Nevertheless, one important implication is that these unfortunate outcomes will be reduced if effective steps are taken to improve the economic condition of the underclass.

Because police officers are agents of the state, it is reasonable to think that political explanations for lethal violence against these street-level officials would have some explanatory power. Yet the political determinants of these significant assaults have been ignored in part because the conventional view is that this violence is not motivated by political considerations but instead is almost completely an outgrowth of more ordinary forms of interpersonal violence. The results of this study challenge this view. By uncovering the economic and political divisions that lead to lethal and injurious assaults against the police, the findings suggest that explanations borrowed from core sociological subdisciplines such as political sociology and stratification may be fruitfully combined with criminology.

Notes

1. In another article that focuses on the (negligible) effects of the death penalty on officer killings, Bailey and Peterson (1994) percentagize FBI data from 1981 to 1989 and find that officer killings most often occur during arrests (40.9%), but disturbances lead to 16.5%, while another 14.4% happen during suspicious person stops. Other lethal situations include traffic pursuits and stops (13.5%), ambushes (8.7%), handling prisoners (4.2%), and killings by the deranged (1.6%). Economic or political subordination and the sense of injustice that results could help explain officer killings in all of these situations. In fact, political factors still could account for the total number of these deaths even if subordination only produced more officer killings in the potentially more intentional killings in ambushes or disturbances.

2. Cities with the most officers killed are Milwaukee and Atlanta, 6; San Diego, 7; Philadelphia, 8; Dallas, 9; Los Angeles, 10; Detroit, 12; Chicago, 16; and New York, 29.

82 cities had no officers killed, 45 cities had 1 killing, and 16 had 2 officers killed during the analysis period.

3. The large proportion of zero scores along with the modest maximum counts indicate that officers killed must be analyzed with Poisson or negative binomial procedures that are designed to explain counts of unusual events. We could construct rates and deal with the resulting censored dependent variable by using Tobit, but rates computed on these events will be misleading. If just one officer is killed in a city with a small department and few officers at risk, the rate for that city will be extremely large. Such deceptive scores increase estimation difficulties because rates in small jurisdictions will shift from zero to extremely high rates due to just one killing. This severe instability produces heteroskedasticity (because small city variances far exceed variances of large cities), extreme outliers, and other estimation difficulties (see Osgood 2000 for the case for estimating with counts rather than rates when an outcome is uncommon). Perhaps when outcome counts go well beyond 100 and the distribution of the largest scores is dense, a Tobit approach combined with population-weighted estimation and additional corrections for heteroskedasticity may be acceptable, but count procedures are far more appropriate in this investigation. The data we use to enumerate these killings are widely regarded as the most accurate provided by the Uniform Crime Reports (Geller & Scott 1991).

4. The statisticians who produced Stata recommend this exposure procedure if a likelihood ratio test cannot reject the hypothesis that the coefficient on the exposure variable is equal to unity (StataCorp 1999). Because such tests give this result, we use sworn officers as the exposure term in all count models. The only noteworthy change in the results if this advice is *not* followed concerns the interaction between population size and the percentage of blacks. If the number of sworn officers is used as an explanatory variable rather than as an exposure variable in this perhaps unique Stata procedure, this interaction no longer is statistically significant, but the percentage of blacks becomes significant. All other theoretical implications persist. If we ignore this Stata recommendation and instead use sworn officers as a conventional explanatory variable, some statistical properties of the best model also change. The pseudo R^2 increases. While the z -values on the two population terms continue to indicate statistical significance, their magnitudes are much reduced, but the remaining significance tests are left unaltered.

5. Eleven cities had black mayors in 1980. The coefficients on a skewed dummy normally will be weaker in multivariate analyses. An increase in the number of black mayors therefore should produce stronger coefficients. Cities with black mayors tended to be larger than those with white mayors. Cities with black mayors have larger percentages of blacks than other cities, but residential segregation and the racial income ratios were similar. Of course, these (and many other) city differences will be held constant in the analyses. The black mayor indicator has weak correlations with the other explanatory variables, so findings about race of the mayor probably cannot be attributed to collinearity. Data on the race of police chiefs or the racial makeup of departments in these cities does not appear to exist. Note as well that the UCR only provides counts of officer deaths by city; information about the race of offenders or victims unfortunately *is not given for cities*.

6. The FBI defines violent crime as the sum of robberies, rapes, assaults, and murders. We see what happens if some components of the total violent crime rate are used instead of the total rate.
7. The number of killings committed by police officers is much greater than the number of officers killed, so this explanatory variable is not based on events that are as uncommon. The mean number of killings by officers across these cities during the period from 1980 to 1986 is 9.68. The mean number of police killings of blacks in these cities in the same period is 5.13. Attempts to use race specific arrest rates to assess police practices toward minorities are dubious. Research suggests that arrests fluctuate after shifts in departmental directives about the crimes that should be given the greatest priority (Rubenstein 1973). Changes in the underlying crime rates often do not predict arrest rates as well as shifts in departmental policy. Minority arrest rates may respond to discriminatory practices by the police or to the amount of minority crime, but the proper weighting of these arrest rate determinants is not known. Because it is unclear what the arrest rates measure, they should not be used in the analyses.
8. We try to avoid averaging data for regressors across multiple years because some theoretically important independent variables (e.g., Gini or the black-white income ratio) are available only in 1979. Such means almost always increase a variable's explanatory power. Because multiple year means cannot be computed for every independent variable, they should not be used for any. We are forced to make an exception for measures of the use of deadly force by the police because in any given year these killings are not common, although their means from 1980 to 1986 typically are based on multiple lethal events (see note 7). As we will see, averaging these indicators of the police use of deadly force over seven years does not increase their associations with officer killings enough to make them statistically significant.
9. As should be the case, if the results of this test are ignored and the remaining models are estimated with negative binomial regression, the findings persist. If we estimate the standard errors without using White's (1980) correction for heteroskedasticity, the same explanatory variables are statistically significant. Finally, estimating the best model with a two equation zero-inflated Poisson procedure that jointly models both zero versus one scores and counts of the event greater than one (Long 1997) gives the same findings. Explanatory variables that are significant in the reported Poisson models continue to be significant in the zero inflated procedure. Zero inflated logit has difficulty converging, so we use zero inflated probit instead.
10. Summing two explanatory variables is valid if their coefficients are equal. Because the coefficients on these two dummies are effectively identical when both variables are included in unreported analyses, it is appropriate to use this summed explanatory variable instead of two separate divorce level dummies for cities in the 2d or 3d quintile on percent divorced.
11. Other variables that never explain the use of deadly force against the police include density or the number of persons per square mile, the ratio of black to white median

years of education, the ratio of black to white families below the poverty line, unemployment disaggregated by race, and the black-white unemployment ratio. Including these ineffective controls does not alter the remaining results.

12. Because four cities had no injurious assaults, we also analyzed these models with Tobit. As expected when such modest censoring is present, except for small differences in the point estimates, results from these (unreported) Tobit models are identical to those found using OLS. When it is not logged, the percentage of poor families reaches statistical significance in model 1, but a log transformation increases this variable's explanatory power in the count models. We find no evidence for divorce rate or quadratic population effects when we analyze assaults. The latter finding is plausible because it suggests that in comparison to officer killings, anonymity is not such an important determinant of assaults. The modest explanatory power of the OLS equations compared to the considerable explanatory power of the count models is attributable to greater amounts of measurement error in the reported assault rates, but OLS is designed to handle random measurement error in dependent variables. These models pass the Ramsey-Reset test for omitted variables and tests for heteroskedasticity. Finally, all findings persist if these injurious assault rates are left untransformed.

13. Collinearity is not a problem in the best count model. If we disregard the association between population and its square, the maximum VIF score is below the threshold value of four that even the most conservative statisticians advocate as an indication of collinearity. The largest correlation between any two explanatory variables in this model (again ignoring population and its square) is a comparatively modest .59 between the percentage of blacks and the interaction term. These considerations and the stability of the results despite drastic changes in the specifications suggest that collinearity is not distorting the findings.

14. We use a large number of explanatory variables because we follow econometricians like Johnston (1984), who says, "it is more serious to omit relevant variables than to include irrelevant variables since in the former case the coefficients will be biased, the disturbance variance overestimated, and conventional inference procedures rendered invalid, while in the latter case the coefficients will be unbiased, the disturbance variance properly estimated, and the inference procedures properly estimated. This constitutes a fairly strong case for including rather than excluding relevant variables in equations. There is, however, a qualification. Adding extra variables, be they relevant or irrelevant, will lower the precision of estimation of the relevant coefficients" (262), so inclusive models typically produce more conservative significance tests.

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The Context of Scientific Achievement: Sex Status, Organizational Environments, and the Timing of Publication on Scholarship Outcomes*

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Abstract

Within the sociology of science, there exists a substantial literature showing that males, on average, publish more than females. This literature directs our attention toward organizational contexts and the timing of publication as promising factors bearing on cumulative scholarship outcomes. In this inquiry, based on 2,910 persons who received doctorates in sociology between 1972 and 1976, we isolate the importance of organizational context to explain the emergent and cumulative sex differences in publication outcomes. Our findings reveal that existing scholarship differences between males and females in this cohort occur within the first six years of the doctorate and continue throughout the career as a result of different employment patterns and publication trajectories. Notably, we find support for Robert Merton's contention that context structures the display of individual merit.

Empirical observations of sex-differentiated scholarship outcomes consistently show that men publish significantly more than females over the duration of a career (e.g., Cole 1979:222). Such differences are reported to be associated with the timing of first publication (Clemente 1973; Reskin 1977), departmental reputation (Allison & Long 1990; Long 1978), and the type of college with which one is affiliated

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(Xie & Shauman 1998). Taken together, these studies offer compelling evidence that organizational contexts and publication histories are important factors bearing on publication outcomes. Nonetheless, this literature has ambiguities that may limit its applicability to an explanation of sex-differentiated scholarship outcomes. For example, measures of research productivity frequently emphasize the quantity of scholarship produced rather than its quality. Insofar as academic careers are rarely based on publications in relatively obscure outlets, cumulative sex differentials in quality outlets warrant additional attention. Moreover, data are often gathered on selected disciplines in the physical sciences, particularly chemistry (e.g., Reskin 1977, 1978a) and biochemistry (e.g., Long 1978, 1992), with inquiries into the social sciences being less common (e.g., Babchuk & Bates 1962; Chubin 1974; Clemente 1973; Helmreich & Spence 1982).

In building on insights gleaned from the literature, our inquiry examines the process through which organizational contexts and publication histories differentially affect the scholarship outcomes of males and females. In particular, *our study examines the scholarship outcomes of one large cohort of male and female doctoral recipients in sociology over the duration of their careers.* This approach provides a common starting point, graduation, and includes all graduates regardless of their eventual career paths. Moreover, our data allow for an analysis of publication outcomes within specific job categories, i.e., institutional contexts. To date, no research on sociology graduates provides as comprehensive a data set based on a single cohort for the purpose of examining the relationship between sex status and scholarship outcomes.

ORGANIZATIONAL ENVIRONMENTS AND SEX-DIFFERENTIATED SCHOLARSHIP OUTCOMES

On the surface, publication represents one measure of scholarly productivity that is seen as an indicator of individual merit. Those who publish early and frequently throughout their careers may equate their success with individual competence and skill. And to some extent, as they look about at their less productive peers, they are correct in drawing this conclusion. However, when the demonstration of individual competence results from opportunities available within organizational environments, the outcome is more indicative of structural advantage than individual merit, what Robert Merton (1968) called the "Matthew Effect." The opportunity to publish in highly visible disciplinary outlets is likely structured by the organizational environments with which one is affiliated, including the doctoral program one follows and the type of institution with which one is affiliated (Allison & Long 1990; Long 1978). Small environmental advantages may lead to an accumulation of minor differences in outcomes, which, when summed over time, can represent important differences in career outcomes (Cole & Singer 1991). The organizational context of individual achievement is, therefore, likely to be a necessary condition for understanding the scholarship outcomes of male and female scientists.

Individual characteristics, including the timing of first publication and the length of time elapsed between receipt of the baccalaureate and doctoral degrees, are associated with subsequent publication outcomes during one's career. For example, the younger a person is at the time of first publication, the more likely she or he will be productive throughout the academic career. Those who publish before earning a doctorate are likely to publish more scholarly work than those who initially publish after earning the doctorate (Clemente 1973). Moreover, persons with fewer elapsed years between the receipt of the baccalaureate and doctorate degrees will be slightly more productive than their counterparts who take more time between degrees (Clemente 1973; Xie & Shauman 1998). These findings suggest that the timing of scholarly activity, particularly the ability to publish early in one's career, is indicative of subsequent publication.

Organizational environments, including the type of doctoral program one attends and the type of department or institution in which one is employed, may provide the structure within which individual achievement becomes realized. To illustrate, resource-rich environments characterized by the availability of federal grants, a scholarly faculty, low student acceptance rates, and high graduation rates are typically associated with high-status universities (Keith 2001). The distribution of these resources, when accrued over time, result in cumulative advantages to persons affiliated with privileged academic environments (Allison, Long & Kraus 1982; Merton 1968). For example, Reskin (1977), based on a sample of 238 chemists who received a doctorate between 1955 and 1961, showed that the timing of first publication influenced subsequent scholarship outcomes, particularly for scientists located in academic settings emphasizing research. Long (1978), from an analysis of 181 biochemists, acknowledged an association between departmental reputation and scholarly productivity. Similarly, Allison and Long (1990), based on an analysis of 179 scientists who changed academic jobs between 1961 and 1975, showed that relocation to a more prominent department positively influenced the level of scientific publication.

Organizational environments in which professional socialization plays an important role also appear to enhance scientific productivity. In particular, access to a mentor within graduate school (Crane 1965; Keith & Moore 1995; Reskin 1978b; Zuckerman 1967) or a postdoctoral fellowship after completion of the Ph.D. (Reskin 1976) may enhance the probability of scholarly publication. Broader organizational contexts, such as voluntary participation in professional associations, also appear to influence scholarship outcomes largely because such involvement provides a form of disciplinary integration that shapes and modifies behaviors and aspirations. In this manner, based on an analysis of 262 sociologists who received their doctorates between 1940 and 1959, Babchuk and Bates (1962) showed that membership in the national-level professional association was associated with higher-than-average scholarship outcomes among sociologists. In effect, organizational contexts reflecting prestige, professional socialization, and disciplinary integration appear to influence scientific scholarship.

Given the overall importance of organizational environments and the timing of publication on scholarship outcomes, how well do these factors account for the observed differences in scientific achievement between men and women? To the extent that female scientists have less access to prestigious graduate programs, are overrepresented as faculty in liberal arts colleges, or are denied access to publication outlets, organizational contexts may account for differences in the timing and frequency of publication between men and women in science. Existing evidence suggests that organizational contexts do differentially affect the scholarship productivity of males and females but in ways that are perhaps more indirect than intentional. As graduate students, females publish less often than their male counterparts (Reskin 1978a) and are less likely to engage in collaborative work with their mentors (Long 1990). Xie and Shauman (1998), based on four cross-sections of data gathered between 1969 and 1993 involving over 27,000 subjects, show that sex differences in scientific scholarship patterns are attributable to the type of institution with which one is affiliated; women are more likely to be employed in two-year and four-year colleges where teaching loads are heavier and research support less pronounced. Kanter's (1977) landmark work, when applied to the science enterprise, suggests that differential opportunities to engage in research activities within academic organizations may affect outcomes. To illustrate, women are thought to encounter gender-based role relationships, which reduce their access to informal communication and opportunities for collaboration (Reskin 1978b). Hence, while outcomes in the publication review process of notable journals in sociology (Bakanic, McPhail & Simon 1987) and economics (Blank 1991) are not different for males and females, the presence of gender bias within highly productive organizations may actually impede women's ability to prepare their work for submission.¹

STATEMENT OF THE PROBLEM

The aforementioned literature offers important directions for guiding research on sex-differentiated scholarship outcomes. Insofar as the literature has not found that males and females differ statistically in their psychological predispositions, motivations, or intellectual aptitudes (Bayer & Folger 1966; Cole 1979; Cole & Zuckerman 1991), these factors appear to have relatively little theoretical value. Instead, publication histories and organizational contexts appear to be the most promising avenues for understanding cumulative scholarship differences between male and female scientists.

Our inquiry examines the effects of organizational context and scholarship histories on publication patterns based on a cohort of doctoral recipients in sociology who received their degrees from universities within the U.S. between the years 1972 and 1976.² The cohort is the most appropriate data segment for examining cumulative scholarship outcomes because it provides a common starting point for all persons (graduation) and includes all doctoral recipients,

irrespective of where they were trained or subsequently employed. For example, cross-sectional samples, by definition, exclude all persons who voluntarily leave employment in academic environments. To the degree that females from a particular cohort depart academe at a higher rate than males, the resulting scholarship differentials will be underestimated (Chubin 1974:90).³ In addition, while the use of several cross-sections provides an adequate assessment of changing trends (e.g., Xie & Shauman 1998), a cohort allows for more direct causal inferences while controlling for obvious period effects in funding, institutional expansion, etc., that affect the opportunities available to each cohort.

Methodology

DATA

Our data are drawn from the 1972–76 cohort of sociology doctoral recipients. The interval 1972–76 was selected because 1972 was the first year in which the names and institutional affiliations of sociology Ph.D. recipients were included in the *Guide to Graduate Departments of Sociology* (1974); 1972 and 1973 graduates were reported in the 1974 *Guide*, 1974 graduates in the 1975 *Guide*, and 1975 and 1976 graduates were reported in the 1976 and 1977 *Guides*, respectively. After removing duplicate names of persons who were included in successive years, 3,174 graduates were identified in the *Guides*. Aggregations of sociology doctorates for each of the five years contained in these *Guides* were compared to the annual National Research Council (NRC) data reported by Roos and Jones (1993:402). Data from the *Guides* and NRC were not identical; the NRC reported that 3,296 sociology doctorates had been awarded during this interval, a difference of 3.6%.⁴

Information on graduates' journal publications were drawn from three sources: the *American Sociological Review* (ASR), the *American Journal of Sociology* (AJS), and *Social Forces* (SF). Graduates' employment status three and eight years after receiving their doctorates was also drawn from the *Guide to Graduate Departments of Sociology* using the 1975–84 *Guides* representing intervals of three years and eight years after graduation. Information on graduates' membership in the American Sociological Association was obtained from the 1980 ASA *Directory of Members*.

Organizational-level data were drawn from two sources. Departmental ratings were obtained from the Roose and Anderson (1970) report via the American Council of Education. The percentage of female faculty affiliated with the graduates' doctoral programs was drawn from the *Guides*.

Variables

JOURNAL PUBLICATIONS

Insofar as careers in academe are rarely forged on scholarship in relatively obscure outlets, the publication source becomes as important as, if not more important than, the quantity of scholarship produced. Yet, much of the research on this subject typically employs measures of total scientific productivity, indicating little about the quality of such work.⁵ This has two important implications. First, to state that male and female scientists differ in total publications says nothing about how comparable they may be with regard to a standard benchmark representing some form of quality work. Second, to the extent that career outcomes, such as tenure at prominent academic departments, are guided by cumulative scholarship, they are most certainly dependent on publication in prominent disciplinary outlets.⁶ For this reason, articles included in the analysis were restricted to the *ASR*, the *AJS*, and *SF*. These periodicals are considered to be among the best in the discipline of sociology (Allen 1990) and considered by some to be virtually indistinguishable from one another (Gaston 1979).⁷ In effect, these journals represent a strong measure of scholarly quality. Expanding the number of outlets to include journals beyond these three does little to enhance the validity of the measure. For example, Keith and Babchuk (1998:1527) reported a high correlation ($r = .99$) between these three journals and a weighted measure containing seven prominent sociology journals, leading to the conclusion that little information is gained by including additional, less prominent, journals to this list. Patently, these three journals represent the oldest, best regarded, and most continuously published periodicals in the discipline, with the *AJS* first published in 1896, *SF* in 1922, and the *ASR* in 1936.

All articles appearing in these journals between 1960 and 1995 were entered into a database and sorted by journal, year of publication, assigned article number, and author. The most refined unit of analysis was the author; each person was assigned a unique identification number that was subsequently employed for successive publications by the same person throughout our database. In total, 4,143 authors were associated with 2,343 articles. Sociology graduates from the 1972–76 cohort were compared with those on the comprehensive authors' list; identification numbers were matched between the two lists to ensure comparability. Several variables were constructed from this information.

Articles published prior to the year the doctorate was awarded were defined as *graduate student publications*. Eighty-one of the 3,174 graduates published articles as doctoral students. This variable has a mean of .03 and a standard deviation of .16. *Publications within six years of Ph.D.* were calculated by summing the number of articles graduates published from the year the doctorate was awarded successfully through the next five years. *Publications within seven to twelve years of Ph.D.* and *publications within thirteen to twenty years of Ph.D.* were similarly calculated by

summing the number of articles graduates published during these two respective time intervals. These three variables have means of .08, .06, and .04 with standard deviations of .27, .24, and .19, respectively. *Total publications* was calculated by summing all publications produced by graduates across the duration of their careers, from their days as graduate students through 1995 (a mean of .37 and standard deviation of 1.46).

Years since first publication represents the number of years elapsed since graduates' first published article appeared in one of the three prominent sociology journals. A twenty-year benchmark is used to provide a constant interval across graduates, regardless of the years in which they received their doctorates. Thus, publication as a graduate student is coded as 21, publication during the first year after receipt of the Ph.D. is coded as 20, and so on. Those who never published in one of these three journals are assigned a value of zero. The mean of this variable is 2.22 years with a standard deviation of 5.85.

Sex status of graduate was coded based on the information available in the *Guide to Graduate Sociology Departments* and authors' biographies contained in the journals (female = 1; male = 0). Of the 3,174 graduates, the sex status of 2,910 persons was identified (mean of .28 and standard deviation of .45); 2,072 were males and 838 female. The sex status of all persons who published one or more articles was identified, either through the *Guides* or from authors' biographies in the journals. The sex status of 264 graduates could not be determined with certainty and, insofar as it is central to the problem at hand, such cases were excluded from the analysis.⁸

Reputation of graduates' Ph.D. programs is drawn from Roose and Anderson (1970:68), who evaluated 73 sociology departments that maintained a research doctorate program and conferred one or more doctorates during the ten years preceding the evaluation.⁹ In their published report, Roose and Anderson (1970) presented categories, not the actual ratings, thus necessitating contact with the American Council of Education to obtain the original ratings. A total of 110 sociology departments granted one or more doctorates between 1972 and 1976; Roose and Anderson (1970) did not rate 40 of these.¹⁰ Therefore, based on the comparability of departmental and institutional ratings (e.g., Keith 1994, 1999; Keith & Babchuk 1998), departments for which a rating was not reported were assigned a value based on the reputation of their affiliated universities. Roose and Anderson (1970) originally assigned mean ratings to departments based on a 5–1 scale, where 5 represents "distinguished," 4 signifies "strong," 3 indicates "good," 2 represents "adequate," and 1 "marginal." The variable has a mean across departments of 2.81 and a standard deviation of 1.02.

Percentage of female faculty in graduates' Ph.D. programs measures the percentage of female faculty in graduates' sociology doctoral programs. Reskin (1978b) suggests that, given the prevalence of sex role negotiation in society generally and science in particular, women with access to female colleagues or mentors might benefit from this demographic trend. This variable was created by dividing the number of

female faculty, as listed in the *Guide* and corresponding to the year of graduation, by the total number of full-time faculty in the department. The variable has a mean of 2.48 and standard deviation of 1.88.

Graduates' employment status within three years of receiving the Ph.D. represents sociology graduates from 1972 through 1976, identified through the *Guides to Graduate Departments of Sociology*, who held faculty appointments in a sociology graduate program within three years of receiving their doctorates. Employing the Roose and Anderson (1970:1) classification typology, we assigned a value of 6 to graduate research departments rated as "distinguished" (4.01–5.00), a 5 to departments rated as "strong" (3.01–4.00), a 4 to departments rated as "good" (2.51–3.00), a 3 to departments rated as "adequate" (2.00–2.50), and a 2 to departments rated as "marginal" (less than 2.00). Graduate programs that only offered the master's degree were assigned a value of 1. Employment locations that were either solely undergraduate programs or could not be identified were assigned a value of 0. The variable has a mean of .71 and standard deviation of 1.35.¹¹

Graduates' employment status within eight years of receiving the Ph.D. was calculated to identify the number of graduates holding faculty appointments with sociology graduate departments eight years after receiving the doctorate. We calculated the values of this variable using a method identical to the three-year employment status. The variable has a mean of .63 and standard deviation of 1.37.¹²

Graduates' ASA membership status in 1980 represents persons who received a Ph.D. in sociology between 1972 and 1976 and were identified as being members of the American Sociological Association in 1980. Association members were assigned a value of 1, else 0. The variable has a mean of .57 and standard deviation of .50.

Analysis

The analysis is presented in three successive sections. The first section examines the prevalence of sex differences in scientific scholarship. The second section employs a logistic regression analysis to identify factors associated with the probability of ever publishing an article in at least one of these three journals. The third section uses a negative binomial regression model to identify factors associated with the quantity of prominent journal articles published.

Results

PREVALENCE OF SEX DIFFERENCES IN SCIENTIFIC SCHOLARSHIP

Our findings reveal that women are less likely than their male counterparts to publish in these prominent sociology journals.¹³ As is evident from Table 1, means for females' publication patterns are significantly lower than those of their male counterparts on five of the six publication measures. Women, as compared to men, are significantly less likely to publish one or more articles in either the *ASR*, *AJS*, or *SF* within the first six years of the doctorate, seven to twelve years and thirteen to twenty years following graduation. Similarly, men publish their first article in one of these three journals significantly earlier than their female counterparts. Most notably, sex differences in publication outcomes for sociology doctoral recipients in the 1972–76 cohort are virtually nonexistent upon receipt of the Ph.D. but gradually expand over the course of graduates' careers. By the twentieth year following graduation, males produce, on average, 60% more publications than their female counterparts (total mean articles of .4165 vs. .2607 for men and women respectively). These differences become statistically significant at the second year and continue through the twentieth year.

Nonetheless, most sociology graduates never publish in these three prominent disciplinary journals. To illustrate, of the 2,107 males and 803 females included in this study, nearly 86% of males (1,799) and 90% of the females (723) did not publish in at least one of these outlets. Seven percent of males (156) and 5% of females (45) published one article. Five percent (94) and 3% (58) of males respectively published two to four articles and five or more articles; comparable percentages for females were 3% (20) and 2% (17) respectively.¹⁴

These findings are not particularly surprising; indeed, these results are consistent with literature on this subject. But without benefit of further scrutiny, these findings reflect male–female differences in scholarship outcomes based solely on the individual as the unit of analysis. To what extent are these differences attributable to various organizational contexts characteristic of one's graduate program and employment location? Table 1 reveals that while the prestige of the graduates' Ph.D. programs do not differ significantly for men and women, males are more likely than their female counterparts to be employed in sociology graduate programs throughout their careers. Moreover, males are significantly more likely to be located in M.A. programs three years after graduation and in both doctoral and master's programs eight years after graduation. Females, by contrast, are significantly more likely to be located in undergraduate programs than their male counterparts.

TABLE 1: Means, Standard Deviations, and t-values for Male and Female Sociology Doctoral Recipients, 1972-1976

	Females	Males	t-value	p-value
Publications as graduate student	.021 (.15)	.031 (.17)	-1.42	.156
Publications within 6 years of Ph.D.	.06 (.24)	.09 (.28)	-2.62	.009
Publications within 7-12 years of Ph.D.	.05 (.21)	.07 (.25)	-2.07	.039
Publications within 13-20 years of Ph.D.	.03 (.16)	.05 (.21)	-2.56	.011
Total number of publications	.26 (1.19)	.42 (1.55)	-2.90	.004
Years since first publication	1.65 (5.15)	2.43 (6.08)	-3.50	.001
Prestige of Ph.D. program, 1970	2.91 (1.41)	2.86 (1.46)	.81	.416
Percent female faculty — Ph.D. program	2.55 (1.92)	2.46 (1.87)	1.22	.225
Employed by doctoral prog. at 3 years beyond Ph.D.	.17 (.38)	.20 (.40)	-1.61	.107
Employed by M.A. prog. 3 years beyond Ph.D.	.08 (.28)	.12 (.32)	-2.87	.004
Not employed by grad. prog. 3 years beyond Ph.D.	.75 (.44)	.69 (.47)	3.26	.001
Employed by doc. prog. at 8 years beyond Ph.D.	.14 (.35)	.18 (.38)	-2.50	.012
Employed by M.A. prog. at 8 years beyond Ph.D.	.06 (.23)	.08 (.28)	-2.77	.006
Not employed by grad. prog. at 8 years beyond Ph.D.	.81 (.40)	.74 (.44)	3.83	.000
ASA member, 1980	.56 (.50)	.57 (.50)	-.11	.910

(N = 2,910; 2,107 males, 803 females)

THE ACT OF PUBLISHING: PROBABILITIES AND OUTCOMES

Mean differences in publication patterns are likely to mask contextual differences associated with one's Ph.D. program or employment. To this end, Table 2 presents the logistic regression coefficients associated with the probability of ever publishing in at least one of these prominent disciplinary journals by variables representing sex status, contextual locations, disciplinary integration, and publication histories. In the first column, publication as a graduate student is regressed on characteristics of the individual and graduate program. Noteworthy is the finding that graduates' sex status is not significantly related to publication for this cohort. Instead, prestige of the graduate program contributes to publication as a student. Few graduates — less than 3% — published as doctoral students (83 out of the 2,910). At this early career stage, contextual location, not sex status, is the primary factor bearing on publication outcomes.¹⁵

Beyond graduation, the publication patterns of males and females begin to diverge. In all three intervals presented in columns 2 through 4 of Table 2 (within six years, 7-12 years, and 13-20 years of graduation), males are significantly more likely to publish than females. Within six years of completing their doctorates (Table 2, col. 2), the graduates of more prestigious departments who are employed in prominent organizational contexts and who published as graduate students are more likely to publish in this time frame. Noteworthy is our finding that knowledge of contextual factors does not eliminate the significance of sex status during this

TABLE 2: Logistic Regression Coefficients of Ever-Publish in Top Disciplinary Journals by Selected Variables at Various Intervals Following Receipt of the Doctorate

	Publish As Graduate Student		Publish within 6 Years of Ph.D.		Publish within 7-12 Years of Ph.D.		Publish within 13-20 Years of Ph.D.	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Model 1								
Sex status	-.36	.69	-.40*	.67	-.39*	.68	-.56*	.57
Constant	-3.46**		-2.35**		-2.66**		-3.07**	
Model χ^2	1.8		6.2*		3.90*		5.66*	
Model 2								
<i>Individual characteristics</i>								
Sex status	-.37	.69	-.38*	.69	-.20	.82	-.32	.66
<i>Context of graduate program</i>								
Prestige of program, 1970	.39**	1.47	.25*	1.28	-.17*	1.19	-.09	.91
Percentage of female faculty	-.05	.95	-.01	.99	-.08	.92	.10	1.11
<i>Context of career outcomes</i>								
Job status within 3 years of Ph.D.			.53**	1.70				
Job status within 8 years of Ph.D.					.44**	1.56	.57**	1.76
<i>Disciplinary integration</i>								
ASA member, 1980					1.25**	3.48	.40	1.49
<i>Past publication history</i>								
Publication as a graduate student			.91**	2.49	.60	1.83	.57	1.77
Publication within 6 years of Ph.D.					1.79**	6.01	1.71**	5.54
Publication within 7-12 years of Ph.D.							2.04**	7.72
Constant	-4.59**		-3.84**		-5.04**		-5.37**	
Model χ^2	26.3**		274.9**		350.7**		345.9**	
Number of cases is 2,910								
* p < .05 ** p < .01								

interval. In subsequent time intervals, the significant effect of sex status on publication outcomes attenuates to a nonsignificant level when job contexts and publication histories are added to the model.¹⁶ Tests for interactions, both two-way and three-way, between sex status and various other combinations of variables in the model were not found to be statistically different from zero.¹⁷

How do these factors affect the probability of publishing? In setting all values of X_i at their respective means and allowing only one variable to vary from its mean value, we find that the overall probability of publishing in at least one of these

journals is .043. However, being a faculty member of a distinguished graduate program three years following graduation increases the probability of publishing to .367; being a member of an adequate graduate program increases the probability of publishing to .122, while not being affiliated with a graduate program had a marginal affect on publishing at .032. Importantly, those employed by a distinguished graduate program who also published in one of these journals as a graduate student increased their probability of publishing to .893; those not affiliated with a graduate program but who published as graduate students had a probability of publishing equal to .323.

As shown in Figure 1, employment context is associated with publication outcomes at intervals throughout the career for both males and females. The probability of publishing within six years of graduation gradually improves depending on one's employment location (Figure 1A). Males affiliated with a distinguished graduate program within three years of receiving the doctorate have a probability of publishing in the journals of .34 compared with .02 for their counterparts who are affiliated with undergraduate programs. Females who were employed by a distinguished graduate program had a probability of publishing during this interval of .26 compared with .01 for their counterparts affiliated with undergraduate programs. Indeed, the trends are nearly identical for those who published in these journals as graduate students and those who did not.

Past publication does influence the probability of publishing in the journals beyond six years. The probability of publishing within seven to twelve years of graduation (Figure 1B) is highest for those located in distinguished graduate programs eight years after graduation who have previously published at least one article in these journals. For males, this probability is .36 while for females it is .31. These probabilities are nine times as high as comparable persons who are located in undergraduate programs (.04 and .03 respectively for males and females). For persons who published both as students and during the first six years after graduation, these probabilities climb higher to .51 and .46 for males and females, respectively. By contrast, for those affiliated with distinguished graduate programs who have not previously published in these journals, the probability of publishing within seven to twelve years of graduation is .09 and .07, respectively, for males and females; for those who have never published in these journals and are affiliated with undergraduate programs, the probability of publishing is nearly zero.

These trends continue unabated beyond twelve years (Figure 1C). To illustrate, for those affiliated with a distinguished graduate program and who published as graduate students, published within the first six years of graduation, and again within seven to twelve years after receiving the doctorate, the probability of publishing in the journals beyond twelve years is .93 for males and .91 for females. For those affiliated with distinguished programs who publish only within the first six years following graduation, the probability of publishing beyond twelve years is .50 for males and .42 for females. By contrast, the probability of publishing beyond twelve years for persons affiliated with marginal graduate programs who publish

only within the first six years of graduation were .09 and .07 respectively for males and females. Hence, these figures show that employment context is important for publication outcomes. However, when holding employment context constant across the career, the probability of publishing in later career stages is also dependent upon past publication trajectories.¹⁸

These findings are further reinforced if the cohort is restricted to persons affiliated with graduate research programs eight years after graduation. As Table 3 reveals, job context and past publication trajectories become important factors in predicting subsequent publication outcomes. The probability of publishing increases as the prestige of the graduate program in which one is employed increases. Notably, prestige of one's doctoral program is only important within the first six years of graduation. Moreover, sex status is only significantly associated with scholarship outcomes within the first six years of graduation, as was found to be the case for the cohort overall (i.e., recall Table 2). Males gain an edge during the first six years after graduation, an advantage that continues to accumulate over the career based on slightly different employment outcomes and publication trajectories.

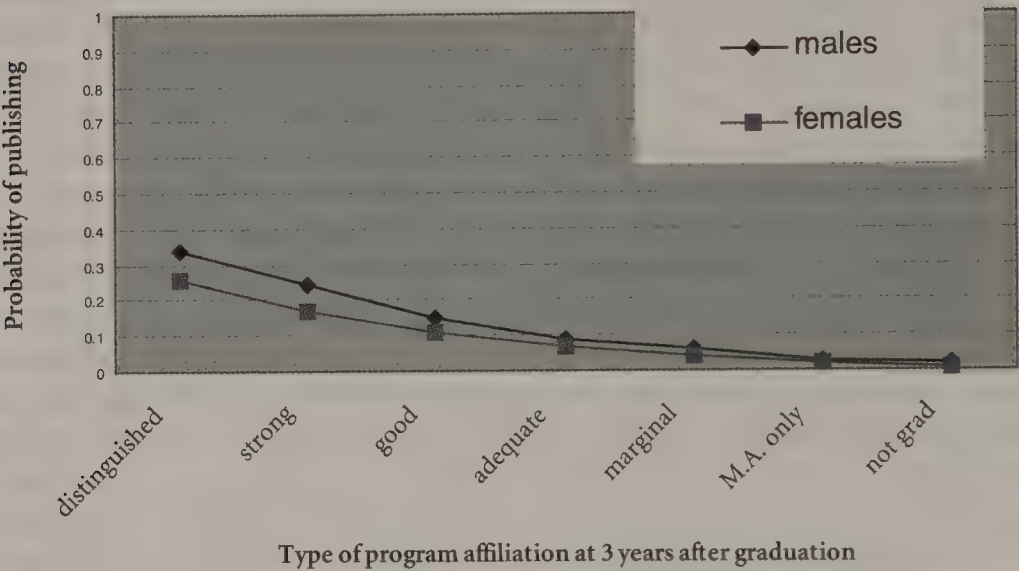
THE QUANTITY OF PUBLICATION

Most graduates, both male and female, never publish articles in these prominent sociology outlets (87% or 2,786 of 3,174 in the cohort). Turning to the 390 graduates of this cohort who published 1,117 articles in the three journals within 20 years of graduation, 21% published as graduate students, 54% published during the first six years following receipt of Ph.D., 45% within seven to twelve years after Ph.D., and 29% published between thirteen and twenty years following graduation.¹⁹ Slightly more than half of the 83 persons who published in one of these journals as graduate students (47) never published again. Of the 37 persons who published both as graduate students and later in their careers, 15 published only one additional article, while 21 published two or more additional articles through 1995. Indeed, 52 percent of the graduates who published (202) did so only once, while 17% (64) published two articles, 13% (50) published three or four, and 19% (74) published five or more articles in these journals. Particularly noteworthy is the discovery that among graduates with one or more publications in these journals, sex status is never significantly associated with publication patterns.²⁰

To what extent does sex status influence scholarship outcomes once publication trajectories are taken into account? Table 4, in addressing this question, presents a negative binomial regression model, where total publications is regressed on variables representing sex status, contextual factors, and publication trajectories.²¹ The two models presented in Table 4 build upon one another, adding successive blocks of variables; sex status is included in the first model while measures of graduate program characteristics, employment contexts, disciplinary integration, and publication histories are added in the second model. The first model shows

FIGURE 1: The Probability of Publishing within Specific Time Intervals Based on Sex Status, Program Affiliation, and Publication History

A. The Probability of Publishing within 6 Years of Graduation



B. The Probability of Publishing within 7 to 12 Years of Graduation

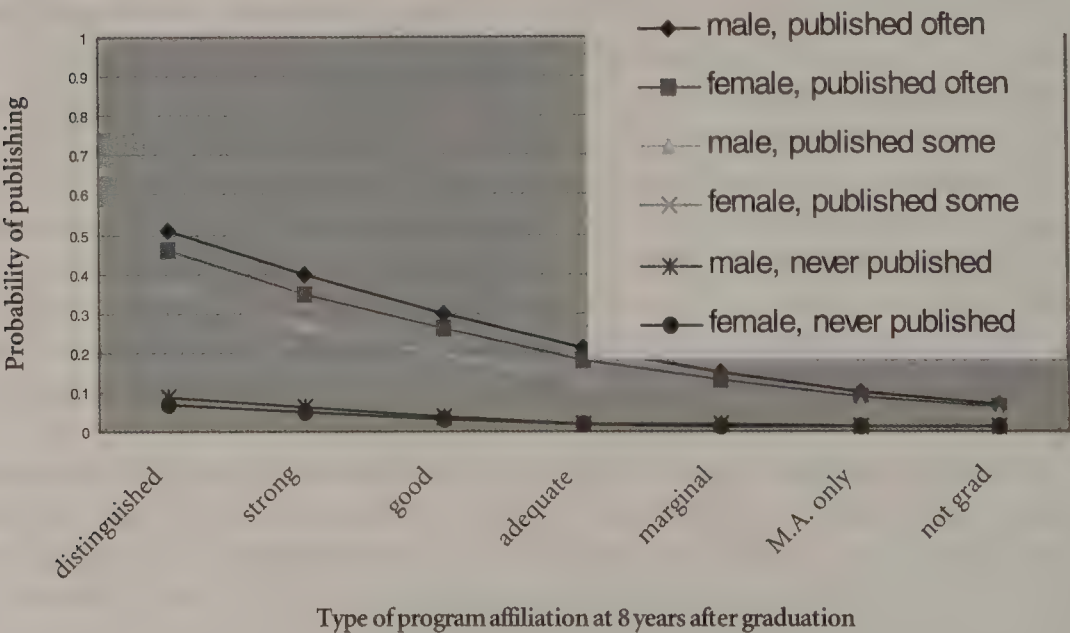
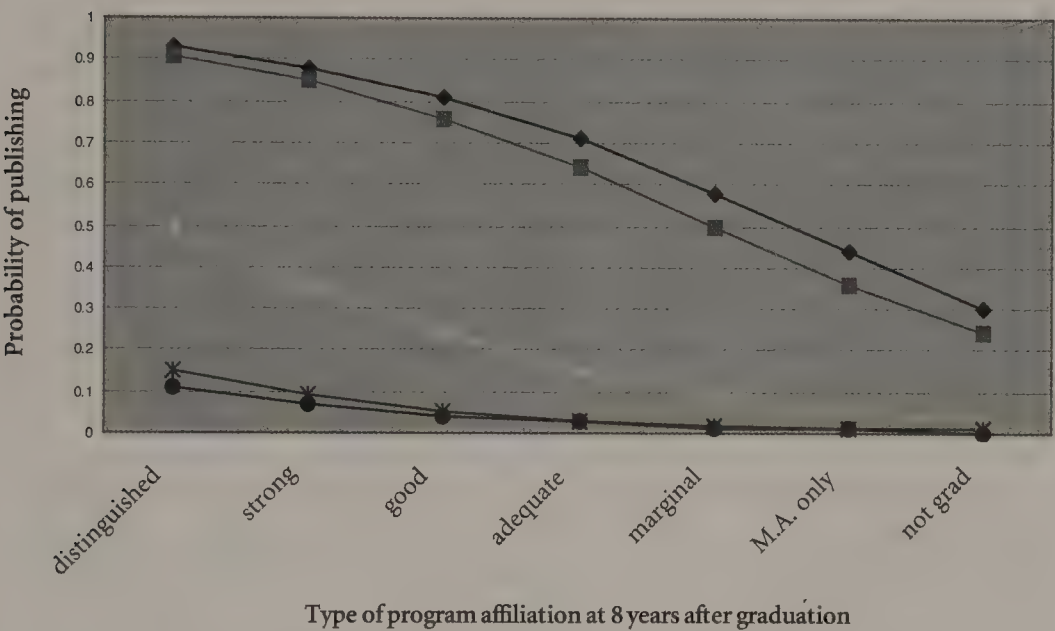


FIGURE 1: The Probability of Publishing within Specific Time Intervals Based on Sex Status, Program Affiliation, and Publication History

C. The Probability of Publishing within 13 to 20 Years of Graduation



that, for the entire cohort, sex status is significantly related to publication outcomes, with males publishing more than females. The second model in the first column of Table 4 reveals that organizational contexts and publication history nullifies the apparent association between sex status and publication outcomes found to be present in the first model.²² Patently, those who publish early and often during their first six years, who are integrated into the discipline, and secure employment in prominent graduate programs are likely to publish more articles in these journals.²³

The second column in Table 4 is restricted to only those persons who were employed by research programs within eight years of graduation. Among this set, sex status is never found to be associated with total publications. Instead, prestige of the graduate program, years since first publication, and the number of publications in the first six years are significantly associated with total publications over the career.

TABLE 3: Logistic Regression of Publication in Top Disciplinary Journals, Overall and for Specific Intervals, by Sex Status, Organizational Context, Disciplinary Membership, and Publication History for Graduates Affiliated with Research Sociology Programs Eight Years after Graduation

	Publish within 6 Years of Ph.D.		Publish within 7–12 Years of Ph.D.		Publish within 13–20 Years of Ph.D.	
	B	Exp (B)	B	Exp (B)	B	Exp (B)
Model 1						
Sex status	-.64*	.67	-.23	.79	-.43	.65
Constant	-.80**		-1.04**		-1.28**	
Model χ^2	6.2*		.8		2.3*	
Model 2						
<i>Individual characteristics</i>						
Sex status	-.69*	.50	-.17	.85	-.29	.75
<i>Context of graduate program</i>						
Prestige of program, 1970	.22*	1.25	.14	1.15	-.07	.93
Percentage of female faculty	-.00	1.00	-.02	.98	.17	1.19
<i>Context of career outcomes</i>						
Job status within 3 years of Ph.D.	.29**	1.34				
Job status within 8 years of Ph.D.			.27**	1.31	.36**	1.43
<i>Disciplinary integration</i>						
ASA member, 1980			1.12*	3.06	-.25	.78
<i>Past publication history</i>						
Publication as a graduate student	.05	1.06	.40	1.50	.45	1.57
Publication within 6 years of Ph.D.			1.53**	4.60	2.03**	7.62
Publication within 7–12 years of Ph.D.					1.89**	6.65
Constant	-2.33**		-4.05**		-4.24**	
Model χ^2	48.2**		99.3**		177.7**	

(Number of cases = 484)

* $p < .05$ ** $p < .01$

Discussion

Our inquiry finds that both the timing of one's publications and one's organizational affiliations are associated with scholarly productivity. Graduates from this cohort who successfully publish early in their careers are more likely to publish throughout them, a finding that corroborates Clemente (1973). Nonetheless, publication is

TABLE 4: Unstandardized Coefficients for Negative Binomial Regression of Selected Variables on the Total Number of Published Articles in Prestige Sociology Journals during a 20-Year Interval

	Full Model (2,910)		Faculty Affiliated with Ph.D. Program at 8 Years beyond Doctorate (485)	
	B	Exp(B)	B	Exp(B)
Sex status	-.47**	.625	-.35	.705
Constant	-.85**		.58**	
Wald χ^2	8.45**		2.65	
<i>Individual characteristics</i>				
Sex status	-.01	.990	-.03	.971
<i>Context of graduate program</i>				
Prestige of graduate program, 1970	.03	1.031	.01	1.010
Percentage of female faculty-graduate program	.01	1.010	.04	1.041
<i>Context of career outcomes</i>				
Employment status within 8 years of Ph.D.	.21**	1.234	.17**	1.185
<i>Disciplinary integration</i>				
ASA member, 1980	.50**	1.649	.28	1.323
<i>Past publication history</i>				
Years elapsed since first publication	.21**	1.234	.17**	1.185
Publications during first 6 years of Ph.D.	.13**	1.139	.17**	1.185
Constant	-4.20**		-3.02**	
Wald χ^2	1872.42**		550.60**	
(Number of cases = 2,910)				

* p < .05 ** p < .01

not associated exclusively with meritorious achievement early in the career. Organizational contexts influence the probability of subsequent publication in two important ways. First, early in one's career, graduate program characteristics, such as departmental reputation, are associated with publication. Sixty-five percent of persons who published in at least one of these three journals originated from graduate programs rated as being either distinguished or strong. Second, employment in a research graduate program enhances the probability of publishing in prominent sociology journals. Of the 390 graduates who published one or more articles in the *ASR*, the *AJS*, or *SF* through 1995, nearly three-fifths (212) held appointments as faculty in graduate research programs within the first eight years of graduation while another 28 were affiliated with a master's degree program.

Our analysis reveals that males publish more, on average, than their female counterparts and that these differences emerge gradually and cumulatively over

time. Why? If one is to accept the results of our analysis, two factors are paramount in addressing this question: the timing and context of publication. With respect to timing, the women in this cohort were less likely than their male counterparts to publish in these three journals within six years after graduation. Although males and females did not significantly differ in their publication outcomes as graduate students, significant differences began to emerge within two years after graduation. Insofar as subsequent publication is associated with early and consistent publication over time, these delays most certainly disadvantage women from this cohort during a critical career stage, a finding consistent with Clemente (1973).

These differences in the timing of publication appear to coincide with the employment trends of males and females in research graduate programs. To illustrate, the percentage of women employed in doctoral graduate programs is not significantly different from the percentage of men three years after graduation (17% of females and 20% of males held such appointments). Nonetheless, within eight years following graduation, men are significantly more likely to be employed by graduate programs (18% male and 14% female), an organizational context that is critically important for sustained publication.²⁴ Moreover, if we restrict the analysis to 485 members of the cohort who were actually employed as faculty in graduate research programs eight years after graduation, sex status is never significantly associated with publication outcomes. Xie and Shauman (1998) make an important distinction between career type (based on Carnegie Classification) and scientific productivity, demonstrating that the lower productivity of women is associated with their type of employment contexts. In restricting our analysis to sociologists in research positions, we show that productivity is attributable to the timing and context of publication, not to sex status. Indeed, women and men with comparable career trajectories have similar publication histories. To the extent that women from this cohort are significantly less likely than men to be employed by graduate programs, especially within eight years of graduation, and that such affiliation is associated with research productivity, then women will be disadvantaged with respect to their male counterparts. This finding corroborates research presented by Cole (1979: 244) for disciplines in the physical sciences.

Certainly, discrimination against women in various social contexts (Kanter 1977; Reskin 1978b) as well as the timing of marriage and prevalence of children (Xie & Shauman 1998) may contribute to these differentials among males and females. But the absence of these factors in our model does not diminish the importance that timing, frequency, and context of publication have on the quantity and quality of scholarship produced during one's career.²⁵ Indeed, the one measure we did employ in our analysis to examine sex role negotiation (percentage of female faculty in graduates' doctoral programs) was never found to be significantly associated with publication outcomes. By contrast, disciplinary integration (as measured crudely by ASA membership) is a contextual factor that was

significantly associated with publication outcomes for both men and women when examined for all 2,910 members of this cohort.

Our findings offer support of Merton's (1968) contention that contextual location structures the display of individual merit. Opportunities to publish in prominent disciplinary outlets appear to be generally structured by the organizational environments in which one is employed, a finding that is consistent for both males and females. While most graduates of this cohort never publish so much as one article in these three sociology journals, early contextual advantages are associated with a gradual accumulation of additional publications over time, which results in large scholarship differences over the duration of a career. In sum, one's past publication history and the organizational context with which one is affiliated largely determines the probability of publishing throughout one's career.

Conclusion

Organizational contexts, the timing of first publication, and the frequency of successive publications are important explanatory factors in accounting for the emergent sex differentials in the scholarship outcomes of male and female graduates. Male and female graduates of sociology doctoral programs do not begin their careers with significantly different publication patterns. However, even by the second year following graduation, male graduates of the most distinguished sociology programs publish in these prominent journals, on average, nearly two years before their female counterparts. This difference is not observed among graduates from less prominent departments. As time since graduation elapses, one's past performance is associated with one's probability of publishing in a prominent journal. Thus, as our inquiry shows, differences in the scholarship outcomes of males and females emerge within specific organizational contexts and as a result of scholarship trajectories.

Given the association between the timing of first publication and subsequent scholarship outcomes, attention may need to be directed toward explaining, not why sex differentials emerge, but, instead, why women from distinguished graduate programs first publish articles, on average, nearly two years after their male counterparts. To the extent that professional networks may influence the timing of publication (e.g., Reskin 1978b), further research is required to better understand how the formation and subsequent effect of professional networks may differentially affect the scholarship trajectories of males and females. Moreover, multidisciplinary efforts are necessary to more fully develop a research program that explains how various dynamic interactive processes between organizational contexts and individuals' characteristics influence scholarship outcomes and career patterns in science. Insofar as individuals' reactions to a series of accumulative events within graduate programs (e.g., professional socialization processes and life course

decisions) vary by sex status, then Cole and Singer's (1991) contention would be supported by evidence. However, if specific dynamics within organizational contexts were the primary culprits (e.g., faculty disproportionately mentoring members of one sex status), then gender bias, not individual decisions, would be of greatest concern.

A second issue concerns the need for data to be gathered on a subsequent cohort of doctoral recipients in sociology, say fifteen to twenty years later than the one employed by us in the present study. The findings presented in this article are largely limited to a single cohort during a particular era. Extending this work to a subsequent cohort will help us to understand the extent to which changes have occurred as greater proportions of women have entered the profession (Roos & Jones 1993). Attention to these concerns will, in time, develop our knowledge of scientific achievement patterns beyond their present infancy to a more mature state.

Notes

1. While others have suggested that the timing of marriage and children may explain the differential publication outcomes of male and female scientists, research that examines the effect of marriage and the presence of children on scholarship outcomes is inconclusive on this point. To illustrate, Hargens, McCann, and Reskin (1978) found that the presence of children is associated with lower scientific output for both male and female chemists. Long (1990) suggested that the timing of children in one's professional stage of career development may be a critical factor, with the presence of children during graduate study adversely affecting the scholarly productivity of women. Cole and Zuckerman (1991), by contrast, reported that neither marital status nor the presence of children is associated with the productivity of prolific or rank-and-file scientists from various disciplines. Xie and Shauman (1998) reported that marital status significantly increases scientific productivity for both male and females. In sum, marriage and the presence of children may influence levels of scholarly productivity but the effects, when present, do not conclusively account for differences in male and female scholarship outcomes.

2. The term *trajectory*, drawn from Elder's (1998) discussion of the life course as a developmental trajectory, may actually be more appropriate in this context than the term *histories*. Elder argues that outcomes in life are the result of social trajectories, embedded in historical time and place (context). Furthermore, Elder (1998:4) acknowledges that "individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstances." In effect, Elder is restating Mill's (1959:6-10) contention that individuals' life outcomes are partially a function of historical context, timing, and networks. Such an approach dovetails quite nicely with Cole and Singer's (1991) view that males and females differential reactions to life events determines scholarship patterns, with the context, timing, and networks held constant.

3. Daryl Chubin (1974) acknowledges that, in an analysis based on a sample of two cohorts of sociology doctoral recipients, 1936-39 and 1955-59, females are much more likely to be overrepresented among persons in nonacademic and nonsociological

employment sectors. Similarly, Xie and Shauman (1998) show women scientists to be underrepresented in university settings that emphasize research and overrepresented in liberal arts colleges. In both instances, the use of cross-sectional analyses based on graduates employed in academic environments may disproportionately exclude women from consideration and thereby bias the results.

4. Comparisons of the Roos and Jones (1993) list of doctoral recipients with those published in the *Guide to Sociology Graduate Programs* revealed slight differences, as shown in the table below. To the extent that the National Research Council database is the most accurate representation of the population, our sample is very accurate on an annual count basis but slightly overrepresents females in 1973, 1974, and 1976. We considered employing a weighting strategy to account for these differences but decided against it for two reasons. First, the differences between the two data sources are fairly small. Second, to conclude that the NRC database is the most accurate representation of the population is an assumption that may not be accurate. Hence, to weight on the basis of this assumption may create greater bias than if we left the differences between the two sources intact and simply recognized that such differences exist.

Year	National Research Council (Roos & Jones 1993)	<i>Guide to Sociology Graduate Programs</i>
1972	19.4% of total; 21.6% female	20.4% of total; 21.0% female
1973	18.2% of total; 25.7% female	18.2% of total; 28.6% female
1974	19.6% of total; 28.7% female	18.9% of total; 32.0% female
1975	20.6% of total; 30.9% female	21.0% of total; 30.3% female
1976	22.3% of total; 30.4% female	21.5% of total; 32.2% female

5. Cole (1979:110) defines quality of scientific output as the total number of citations received by scientists and contrasts it with quantity, which is defined as the average number of articles published per year. This definition of quality assumes that, although citations may reflect both praise and criticism, the greater the number of citations received, the more visible or recognizable the scientist. Without doubt, this is an excellent measure of visibility or disciplinary recognition. However, insofar as the present inquiry is concerned with publication outcomes and not visibility per se, the authors have selected, as a dependent measure, publication in prominent disciplinary outlets. Such distinction is necessary so as to control for "quality" of publication outlet but not confound the measure of quality publication with disciplinary visibility.

6. While some evidence indicates that male and female sociologists do not specialize in the same substantive areas and, on average, employ different methodological and theoretical approaches to their work (Grant, Ward & Rong 1987), other evidence suggests that males are no more likely than females to have their manuscripts accepted for publication in journals of high caliber (Bakanic, McPhail & Simon 1987; Blank 1991). To the extent that the editors of the three journals chosen publish research emphasizing "men's work," this measure of quality would be biased in favor of males. However, if perceptions of "quality" in the discipline are largely based on publication in these three journals and women, because of their research focus, encounter obstacles in publishing their work, then the sex status variable will be significantly associated with publication outcomes after controlling for organizational contexts because of this inherent bias.

7. Several earlier studies have examined these three journals alone (Gaston 1979; Keith & Babchuk 1994) or in relation to other publications (Glenn & Villemez 1970). Although the journals are typically ordered using some sort of weighting scheme based on surveys of sociologists (Glenn & Villemez 1970) or citation counts (Allen 1990), they have, by at least one account, been viewed as indistinguishable from one another (Gaston 1979). To illustrate, in reading and evaluating all articles published in 48 issues of these journals over a three-year time span, Jerry Gaston (then editor of the *Sociological Quarterly*), concluded that there was little difference between them. Gaston (1979) stated that “to consider them ranked first, second, and third is misleading. They are so similar that ranking them is a waste of time.” As such, the *ASR*, *AJS*, and *SF* may well be recognized as the top generalist journals in the field with all others representing either smaller regions or refined substantive areas that are not considered to be as widely prominent in terms of both readership and applicability to the discipline. Moreover, these three journals represent the oldest continuously published periodicals in the discipline, with the *AJS* being the oldest followed by *SF* and the *ASR*.

8. Although professional women are increasingly prone to keep the name they held at the time of their graduation as their professional name, some bias may have resulted from name changes — i.e., women who changed their surname upon becoming married after graduation, thus publishing under a name that was different from the one they held at the time of graduation.

9. In the Roose and Anderson study, faculty who evaluated departments were randomly selected proportionate to the number of doctorates awarded by Ph.D.-granting departments in sociology (Roose & Anderson 1970:1-3). Thus, the University of Chicago, which graduated the most sociologists with Ph.D.’s, had the greatest number of evaluators selected for the sample; Wisconsin, with the second highest number of doctorates conferred, was second, and so on. Those in the sample assessed the quality of the various graduate departments other than the institution with which they were currently affiliated. Evaluative scores ranged between 0 and 5; ratings above 4 represented “distinguished” departments, 3.01 to 4.00 indicated a “strong” status, 2.51 to 3.00 “good” departments, 2.00 to 2.50 represented “adequate” departments, and those less than 2.00 were viewed as “marginal.”

10. The 40 sociology departments not rated by Roose and Anderson (1970) include, UC–San Diego, UC–Riverside, UC–Santa Cruz, UC–Santa Barbara, UC–San Francisco, SUNY–Stony Brook, SUNY–Albany, SUNY–Binghamton, CUNY Graduate School, Rice, Virginia, Virginia Tech, Illinois–Chicago, Rutgers, Nevada, Northeastern, Arizona, Arizona State, Texas A&M, Georgia, Hawaii, Temple, Oklahoma State, Miami, Delaware, Bryn Mawr, Cincinnati, Montana, Bowling Green, Boston College, Colorado State, George Washington, New Hampshire, Western Michigan, Denver, Alabama, South Dakota State, Texas Women’s College, North Texas State, Texas A&M, and Mississippi State.

11. The breakdowns for the employment categories, three years after graduation are listed below for the total cohort, females, and males.

Employment Category Three Years after Graduation	Total Cohort	Female	Male
Distinguished program	26 (1 %)	8 (1%)	18 (1%)
Strong program	99 (3%)	24 (3%)	75 (4%)
Good program	62 (2%)	17 (2%)	45 (2%)
Adequate program	103 (4%)	27 (4%)	76 (4%)
Marginal program	265 (9%)	62 (8%)	203 (10%)
M.A. only program	313 (11%)	66 (8%)	247 (12%)
Not graduate program	2,042 (70%)	599 (75%)	1,443 (69%)

12. The breakdowns for the employment categories eight years after graduation are listed below for the total cohort, females, and males.

Employment Category Eight Years Out	Total Cohort	Female	Male
Distinguished program	40 (1%)	11 (1%)	29 (1%)
Strong program	104 (4%)	27 (3%)	77 (4%)
Good program	42 (2%)	13 (2%)	29 (1%)
Adequate program	103 (4%)	23 (3%)	80 (4%)
Marginal program	192 (7%)	37 (5%)	155 (7%)
M.A. only program	218 (8%)	44 (6%)	174 (8%)
Not graduate program	2,212 (76%)	648 (81%)	1,563 (74%)

13. The word *publication*, as it is used throughout this inquiry, refers to the production of an article that appears in one of the prominent journals associated with the discipline of sociology. These are limited to the *American Sociological Review*, the *American Journal of Sociology*, and *Social Forces*.

14. The distribution of cumulative publications through 1995, authored by males and females separately, is displayed in the table below.

Cumulative Articles Published	As a Percentage of All Males	As a Percentage of All Females
0	85.4	89.8
1	7.4	5.6
2	2.4	1.6
3-5	2.8	1.7
6-10	1.5	1.0
11-20	0.5	0.3
Total Number of Graduates	2,107	803

15. Males are slightly more likely to publish as graduate students than their female counterparts (3% vs. 2.2%). When selecting only those who actually published one or more articles during their careers, the bivariate correlation between publication as a graduate student and total publications is, at $-.02$, not significantly different from zero. While 21% of those who published in one of these prominent journals published initially as a graduate student, such publication does not appear to be either a necessary or sufficient condition for subsequent publication among members of this cohort.

16. One reviewer requested that the findings reported in Table 2 be presented before and after the variables representing publication histories were added to the model. While space limitations preclude inclusion of this information, we summarize the findings here. When excluding the publications as a graduate student from the model presented in column 2 of Table 2, neither the magnitudes of the coefficients nor the significance of the results differ from those reported when the variable is included in the model. Column 4 (publish within 13-20 years of Ph.D.) is the only one of the four to be substantially different when omitting variables associated with publication histories. When publication information is removed from the model, sex status becomes significant at $\alpha = .05$, while ASA membership become significant at $\alpha = .01$. This finding suggests that employment context is not sufficient to account for the sex differences in publication outcomes 13-20 years after earning the doctorate. Once publication histories are taken into account, however, job context and past scholarship are found to be the key predictors of publication in this time interval. This finding further supports the contention of this article; to the extent that past publications beget future publications, males gain an advantage early in the career (within six years of graduation) that accumulates across the career in the form of greater numbers of publications.

17. Although the interaction effects between sex and selected variables were not found to differ significantly, separate models for each group revealed the importance of slightly different factors associated with subsequent publication. For example, within six years of graduation, the prestige of the graduate program one attends is significantly associated with publication outcomes for males but not females. By the seventh year following graduation from a doctoral program, the models for males and females are the same. In both models, employment status and past publication histories are found to be the most critical factors bearing on subsequent publication outcomes.

18. Some readers may question the meaningfulness of the probabilities presented in Figure 1 because of a concern that no one actually occupies a particular location, given a particular publication trajectory — i.e., the predictions extend beyond the observed data. From the analyses presented in Figure 1, only two categories were missing at least one observation. First, of the eight females who published as graduate students and within the first six years after the doctorate, none were employed by a program rated as “good” eight years after graduation. Second, of the ten women who published as graduate students, within six years, and within seven to 12 years of the doctorate, none were employed by an M.A. program eight years after graduation. In actuality, all other cells contained valid cases. To illustrate, of the 390 persons who published at least one article in these journals, 178 were never employed by a doctoral graduate program. Of those not employed by graduate programs, 49 (35 male and 14 female) published as graduate students, 96 (69 male and 27 female) published within the first six years of graduation, 55 (42 male, 13 female) published within seven to 12 years of graduation, and 17 (13

male and 4 female) published 13 to 20 years beyond the doctorate. Eighty-one graduates published as graduate students, 63% of whom (53) originated from either a strong or a distinguished graduate program. Twenty-three graduates published both as graduate students and within six years of the doctorate (15 male, 8 female), 82% of whom (19) originated from either a distinguished or a strong graduate program. Ten of these 23 published as graduate students, within six years, and within seven to 12 years of graduation, all of whom originated from a distinguished or strong graduate program.

19. These percentages are based on categories that are not mutually exclusive and, therefore, will sum to a figure greater than 100%.

20. Examination of the most prolific male and female scholars in this cohort suggests a slightly different interpretation. The top ten male and female scholars represent seven-tenths of one percent of their cohort. Notably, only two of the ten women but all of the men would appear on a comparable list of the most prolific scholars in the cohort with eleven or more published articles from graduation through 1995. Also noteworthy from this list of prolific scholars is the observation that two graduate departments account for 40% of the most prolific scholars from this cohort (Wisconsin and Washington). Similarly, if the list were expanded to include all persons who published six or more articles in these journals (52), 43% originate from departments rated as "distinguished" while another 41% graduated from "strong" departments. Clearly, at least among the most prolific scholars in this cohort, there is an apparent association between the distinction of one's graduate program and total number of publications placed in these prominent disciplinary outlets, an association largely tempered by the large number of graduates across departments who never publish.

21. While the dependent variable (total number of articles published) in this analysis is best represented by a counting process reflective of a Poisson distribution that estimates probabilities associated with arrivals (publication in this case), negative binomial regression is employed because the dependent variable is highly skewed, with 87% of the cohort never publishing an article in one of the three journal outlets and less than 2% with six or more articles. One important property of the Poisson model is that the expected value of the random variable Y is equal to its variance, such that λ (the average number of arrivals per some time interval) is expected to be equal to the variance of Y . In our case, the observed variance (2.13) of the dependent variable Y is considerably larger than its corresponding mean (.37). The negative binomial regression model relaxes this restriction, thereby offering greater flexibility than the Poisson model in accurately estimating the relative frequency patterns of the observed event count data (Land, McCall & Nagin 1996).

22. There is a perception that publishing as a graduate student, particularly as the sole or lead author, gives one an important boost in publication outcomes throughout the career. Among members of this cohort, graduate student publications account for 2.9 percent (83/2910) but 21% of those who published in at least one of these three journals (83/390). Clearly, as we have shown throughout this article, publication as a graduate student is associated with publication within six years after graduation. However, we do not find significantly different total publication outcomes for persons who published as a graduate student, either as the lead author or the sole author, and those who published as graduate students but were neither the lead nor the sole author. These findings are consistent for both males and females. At least as pertains to this cohort, total publication

outcomes are not associated with being either the lead or the sole author in a prominent publication as a graduate student.

23. These results are comparable for males and females when analyzed as separate models. For females, the critical factors bearing on career publications are the timing of first publication, disciplinary integration, and employment context eight years after graduation. Males are comparable to females with the additional factor of cumulative publications during the first six years. Interestingly, when mean publication outcomes are examined separately for males and females, the 16 women from this cohort who were from distinguished or strong programs as graduate students and employed in distinguished or strong programs within eight years of graduation published an average of 5.75 articles compared with their 65 male counterparts' average of 5.25 articles. Similarly, the eight women from distinguished or strong doctoral programs that were employed by good or adequate programs eight years after graduation published an average of 3.26 articles and their 32 male counterparts averaged 3.17 articles. These findings suggest that organizational context is important; while males generally publish more articles on average than their female counterparts, females may out-produce males, on average, in some highly prominent contexts.

24. If the sample is limited to the 83 persons who published as graduate students, 38% (6) of the females and 55% (35) of the males were employed in doctoral research programs within three years of graduation. These differences are not statistically significant, most notably because of the small sample size. However, if we include in this sample all persons who published either as graduate students or within the first six years of graduation, we discover that 46% (27) of the females and 62% of the males (144) were employed in doctoral research programs within three years of receiving the doctorate; a difference that is statistically significant at $\alpha < .05$. Moreover, of those who published either as graduate students or within the first six years of graduation, 47% (27) of the females and 29% of the males (68) were located in undergraduate programs or had left academe. This difference is significant at $\alpha < .05$.

25. This inquiry might aptly have emphasized the importance of individual achievement over ascribed backgrounds. But to do so would most certainly go beyond the scope of this article. Individual achievement in scholarship outcomes reflects little upon one's professional status. Indeed, there is considerable variation among the reputations of graduate departments, both in terms of the highest degree conferred upon students as well as the prestige of doctoral granting departments. Publication in prominent disciplinary outlets will, *ceteris paribus*, most certainly increase one's visibility in the discipline, especially for the most prolific scholars. But, for a variety of reasons, including the possibility of gender bias, such recognition does not necessarily guarantee one employment with the most distinguished departments in the discipline. Paradoxically, while much is made throughout the discipline about the importance of quality publications, distinguished departments almost certainly contain some tenured faculty who have never contributed to the field through publication in any one of these outlets. Concluding that particularism is of little relevance in the career paths of individual sociologists today would, if based on the findings of this inquiry, most certainly be unfounded.

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Western Europe and its Islam

The Social Reaction to the Institutionalization of a 'New' Religion in the Netherlands, Belgium and the United Kingdom

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Immigration from North Africa, Asia and elsewhere meant a large influx of Islam into Western Europe. In each country, Muslims organized in various ways and established numerous institutions such as mosques, cemeteries, *halâl* butchers, schools, broadcasting organizations, and political parties, and slowly but surely the outlines of Muslim communities begun to emerge. The development of those communities is not a matter of Muslims only, but the product of their interaction with the wider environment. The development of the process of institutionalization is the result of their consultations and conflicts with parties involved, particularly with agents from the host society. As Muslim immigrants become ever more a part of Western European societies, the establishment of their institutions both illustrates and affects the processes of sociological, political and legal change that are currently taking place. This book, based on interdisciplinary research, examines the establishment of Muslim institutions in Western Europe, and particularly focuses on the role played by agents from the host society and the political and ideological positions adopted by them in reaction to claims from Muslims.

Readership: The book is of interest to both scholars of cultural anthropology, political science, the sociology of law, the sociology of migration, the sociology of social movements, ethnic studies, religious studies, and urban studies, as well as to practitioners such as politicians, civil servants and ethnic and religious leaders in the field.

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B R I L L

Racial Disparities in Income Security for a Cohort of Aging American Women*

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Abstract

In this analysis we examine how women's family and employment choices are linked to differences in financial security as they age. Previous research has tested theories of growing inequality, decreasing inequality, or maintained inequality as cohorts transition into old age. We assess these hypotheses for older women and emphasize the heterogeneity in women's experiences, particularly differences in income security among women by race. Our findings indicate that, although marriage offers women considerable financial protection, their own employment was also a key to their security and reduced the rate at which income security decayed as they entered old age. This increased the variation in outcomes relative to initial positions. Whereas marriage provided more security for white women, employment gave a greater boost to black women.

Although the economic status of older people in the U.S. has improved in recent years, certain demographic groups — women, African Americans, and the oldest old — continue to suffer high rates of poverty in old age. Older women are among the most disadvantaged of these groups, particularly African American women, who have the highest rates of old age poverty (Dressel 1988; Hardy & Hazelrigg 1993; Harrington Meyer 1996a; U.S. Census Bureau 1999; Wilson-Ford 1991). Women's lifelong family obligations and employment histories sometimes collide with policy provisions that fail to adequately incorporate important gender differences in the life course. Trajectories that develop as people age, as well as new conditions, such as widowhood and labor force exits, that occur in later life disproportionately increase the risk of poverty for older women. In late life,

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economic status for men and women depends largely on previous wage and salary income. Lifetime earnings influence wealth accumulation as well as expected benefits from Social Security and employer-based pensions (Pampel 1998). And although being married provides poverty protection for both men and women, loss of spouse — a more common experience among older women — represents a critical test of the long-term consequences of an extended commitment to unpaid labor.

To assess how women's family and employment choices are linked to differences in their financial security, we examine a cohort of women who came of age during a period of significant reorganization of the female life course. Born between 1923 and 1937, these mothers of the baby boom represent a transitional cohort. By the mid-1950s they had completed their schooling and started their families. If they worked outside the home, they entered the labor force between the mid-1940s and the 1950s, prior to passage of the 1964 Civil Rights Act and before concerns regarding the destructive effects of gender and racial stereotypes captured the public's attention. They entered middle age during the 1960s and 1970s, called "watershed decades" for women (Spain & Bianchi 1996) because of changes in the availability of birth control pills, equal pay legislation, legalized abortion, and no-fault divorce. An unprecedented number of women earned college degrees, and labor force participation rates for women (especially married women with children) grew steadily.

While continuous labor force attachment has been one of the most important factors in building economic security for men (and, indirectly, for their families), for women in this and earlier cohorts, assuming the role of homemaker, perhaps with some irregular labor force attachment, provided a common link to security. In other words, women's financial security was gained primarily as a wife, not as a paid worker. But to assume that these generalizations apply equally well to all groups of women is to ignore considerable heterogeneity in women's behaviors. For although white women of this cohort more often built financial security through marriage, when divorce rates increased, a significant proportion of these women had to quickly develop new strategies to regain the security they had lost. In contrast, African American women have historically had higher rates of labor force participation throughout their adult years, regardless of marital status (Amott & Matthaie 1991). Embedded in the race-based comparisons that are a focal point of this research is the intersection of race and marital status. For some women, financial security generally depended on their success in the labor market; for other women, financial security depended on their success in the marriage market. Race could operate as a disadvantage in both markets, since black women had more restricted access to "good" jobs and to moderate- to high-earner husbands.

THEORIES OF INEQUALITY IN OLD AGE

Three central theoretical perspectives used to explain inequality in old age share a concern with institutional changes that can reshape the life cycle, such as policy changes in transfer programs for the elderly. These are transfer redistribution theory, the theory of cumulative stratification of the life course, and status maintenance theory. Although these perspectives address economic status in later life as an outcome of earlier life course experiences, their almost exclusive focus on changes in sources of income at the transition from employment to retirement is limiting. When addressing financial security at the individual level of analysis, the gendered nature of the relationships between work and family makes this emphasis on employment better suited to men and nonmarried women. For example, a married woman's "retirement" income has often been a derivative of her husband's retirement benefit and, upon his death, a continuation of his benefit. In addition, defining the retirement transition within the realm of unpaid labor is quite problematic. If retirement is defined by receipt of Social Security benefits, then women's retirement is often contingent on their husbands' retirement, since women are more likely to receive Social Security benefits based on their spouses' work histories rather than their own (Harrington Meyer 1996a). Although these benefits indirectly recognize nonemployed women's unpaid contribution to household production, women's household responsibilities may not change after benefits are initiated. The eligibility and benefit structure of public and private pensions produces striking differences among women as well. Benefits linked to marital status can be as exclusive as benefits linked to contributions, since noncontributory benefits are available only to those who meet certain marital requirements (Harrington Meyer 1996b).

Transfer Redistribution Theory

The distribution of transfer income is more egalitarian than wage and salary distributions because transfer programs incorporate principles of sufficiency adopted through democratic processes rather than through market competition. The higher rates of return to Social Security contributions received by low-income people and universal access to medical care in old age are thought to help minority groups, who on average have lower earnings than majority groups. Inequality in old age may therefore be moderated by the progressive formula applied to the distribution of benefits and relief from expensive private health care (Pampel 1998). On the other hand, spousal benefits entitle nonemployed wives (who are more likely to be white than African American) to 50% of the husbands' benefit amount rather than to a flat benefit amount. Therefore, married nonemployed wives may receive higher benefits than nonmarried employed women or married employed women whose husbands have lower earnings. Whereas some distributional rules (e.g., progressive replacement rates) may help lower income and minority

populations, other rules that primarily affect women may exacerbate existing inequities.

The stratifying effects of noncontributory benefits also undermine the redistributive characteristics of the Social Security system. They benefit women who maintain lengthy marriages and never work outside the home and, to a lesser extent, employed women who are married at least ten years and have contributed to the system. However, they are unavailable to those who have not been married at least ten years. These benefits cannot be justified as antipoverty efforts because women who receive the highest monthly benefits are more likely to be recipients of these spousal awards (Harrington Meyer 1996b). This system disadvantages African American women, who are both more likely to have worked in paid employment than married white women and less likely to qualify for spousal benefits because they are less likely to have been married for ten years (Quadagno 1994).

The transfer distribution perspective predicts that income inequality declines from middle to old age, and that income inequality is less influenced by background status characteristics in old age than younger ages. Therefore, retirement income is more equally distributed. Leveling arguments maintain not only that public policy is more egalitarian than the market, but that the previously low economic status of minority groups limits the amount that their income can fall during old age.

Cumulative Stratification of the Life Course

A modification of Robert Merton's original hypothesis to address age-linked transitions, this perspective emphasizes increases in inequality that correlate with aging (O'Rand 1996). Early status characteristics define individuals' initial endowment positions, which act as constraints or facilitators in the accumulation of resources. Socially defined exchange values may be distorted relative to ascribed characteristics, such as gender and race/ethnicity, as well as achieved characteristics such as education and labor market location. The unequal distribution of private resources in early adulthood sorts people onto accumulation pathways. It is possible to shift upward onto a pathway of more rapid and diversified accumulation by means of effort or serendipity; however, it is also possible to fall onto a less lucrative pathway because of poor choices or misfortune (e.g., ill health or sudden changes in markets). Those who begin adulthood with poorer endowments are particularly vulnerable to the problems associated with old age, and public transfers are not designed to reverse these patterns (Crystal & Shea 1990; Crystal & Waehrer 1996; Dannefer 1988).

Status Maintenance

That status processes exhibit consistent effects over the life course, maintaining earlier advantages into older age, defines the status maintenance perspective. The distributional logic embedded in government programs and other social institutions that generate claims to retirement income incorporate principles of the market and therefore do little to alleviate the inequities created through market mechanisms. Consequently, despite more reliance on transfer income in old age, the individual-level determinants of economic well-being in the market, such as education, occupation, and race remain equally important determinants in old age. The sources and levels of income may change, but the access and claims that people have to that income do not alter preexisting hierarchies (Henretta & Campbell 1976; Pampel & Hardy 1994).

The U.S. welfare system reinforces market-based inequality because of its reliance on the principles of insurance rather than citizenship rights, meaning that retirement income depends heavily on private pension and Social Security contributions (Pampel & Hardy 1994). Consequently, the determinants of earned income, such as race, gender, occupation, and education have similar influences on retirement income later in life.

The empirical literature has supported all three perspectives to varying degrees; the question of the predominant pattern is still debated. What is not disputed is that status characteristics remain important for financial security in old age. The question is whether the relative importance of status characteristics is maintained, muted, or exacerbated with age.

TAKING A CLOSER LOOK AT WOMEN

The intersection of age and gender produces distinctive life patterns for women (Moen 1985). The three perspectives outlined above all emphasize the labor market and employment-based retirement programs as the primary producers of income distributions. Women's reliance on marriage calls this focus into question. Initially, old age security policies were based on the assumption that marriage and family arrangements were permanent, but increases in divorce rates led to amendments that entitled divorced wives to benefits based on their ex-husbands' earnings histories. The necessity of such a policy change underscores the continuing validity of the view that, unless never married (and therefore self-supporting throughout the adult years), women could build financial security in old age only through contingency arrangements that linked their benefits to those of a male worker.

Marital Status

That intact couples fare better than singles in building financial security is well established. Despite protective measures such as Social Security survivors' benefits and joint-life options for employer-sponsored pensions, widowed and divorced women experience economic deprivation at a much higher rate than single men or intact couples (Burkhauser, Butler & Holden 1991; Choi 1992; Holden 1988; Holden, Burkhauser & Feaster 1988; Holden, Burkhauser & Myers 1986). In 1998, three in four adult men compared to fewer than one in two women were married. Almost half (45%) of older women were widows (U.S. Bureau of the Census 1999). These comparative rates reflect the tendency of women to marry older men, coupled with longer life expectancies among women.¹

Both widowhood and divorce are associated with lower levels of economic well-being for elderly women, but not to the same degree (Choi 1992). The extent to which these statuses represent disadvantages for women in old age is tied to their age when the event occurs, their own employment histories, race, prior economic status, and health. In addition, conventional measures of economic status (e.g., employment history, education) may not compensate for the relative disadvantage of divorce compared to widowhood. Recent statistics show that, at earlier ages among both African Americans and whites, poverty has been increasingly concentrated in female-headed households, which remain poor for a longer period of time than low-income two-parent families (Cherlin 1992).

Labor Force Participation

Women's labor force participation steadily increased throughout the twentieth century so that today almost half of the workforce is female (Spain & Bianchi 1996). In 1950, one in three women was in the labor force compared to almost three in five by 1990. For the 25 to 54 age range, slightly more than one-third of women were in the labor force in 1950, rising to almost three-quarters in 1990 (U.S. Bureau of the Census, in Spain & Bianchi 1996:81). As women have become more active in the labor force, their age-employment profile has also begun to resemble that typical of men (with employment increasing rapidly as schooling is completed, remaining high through middle age and then declining in the late fifties and sixties with retirement). Historically, the profile of older women tended to be more U-shaped (high rates in the early twenties, dropping as women entered childbearing years, then increasing in middle and late middle age).

Women's work histories also show considerable diversity, with more transitions between full-time and part-time employment and between periods of employment and nonemployment (Moen 1985), most often the result of childrearing respon-

sibilities (Stone 1989). In addition, women's employment has been concentrated in the trade and service sectors, which are characterized by lower rates of pay and fewer fringe benefits (Reskin & Padavic 1994). Finally, women have primary responsibility for a broad range of unpaid activities such as family caregiving and housekeeping (Stone 1989). All these factors suggest wide variation in the relationship between employment and financial security.

The Question of Race

Although these patterns characterize women in general, there are important differences in labor market experience among women by race both at the aggregate and individual level. At the aggregate level, African American women have historically had higher rates of labor force participation than white women (Amott & Matthei 1991; Browne 1999). But labor force participation includes those who are employed or *unemployed* and looking for work. African American women have experienced higher rates of unemployment — twice the rates of white women through the 1980s and 1990s (Browne 1999). This suggests that white women have been able to find a job more quickly when they are searching for work and are less likely to lose a job once they are employed (Browne 1999). Consistent with this pattern at the individual level, African American women are most likely to have sporadic work patterns, shorter job tenure, and greater concentration in low-paying, unstable occupations (Dressel 1988; Gibson 1987; Hertz 1988). Living in areas of high unemployment or areas negatively affected by deindustrialization, having lower levels of education and skill, and having to deal with the negative effects of discrimination are among the hypothesized factors contributing to the concentration of African American women in less stable and lower-paying jobs (Cancio, Evans & Maume 1996; England 1992; Holzer & Vroman 1992; Wilson 1987). As a result, for many poor African American women, the receipt of Social Security benefits may be their first experience of economic security (Belgrave 1988).

In addition, African American women are increasingly unlikely to ever marry, more likely to divorce, and less likely to remarry than whites. Hence, African American women spend fewer years in marriage than white women (Cherlin 1992:95), a pattern suggesting that these women will be less likely than white women to live with a spouse in old age (Wilson-Ford 1991). Therefore, for African American women, employment and marriage may provide enhanced security relative to other African American women but are unlikely to close much of the gap between the races. These women were middle-aged by the time civil rights legislation was enacted, and their education and employment prospects had been narrowly defined, as had the prospects of their husbands. The effects of segregation had already been woven into the fabric of their lives.

TABLE 1: Comparison of Means of Sample and Attritors

	In Sample		Not in Sample		t Value
	Mean	S.D.	Mean	S.D.	
Black	.096	.295	.116	.320	2.24*
Married	.896	.306	.873	.333	-2.43*
Divorced	.040	.196	.050	.218	1.66
Widowed	.020	.139	.021	.142	.25
Never married	.044	.206	.056	.230	1.81
Employed	.465	.499	.480	.500	1.02
Job tenure	5.148	5.173	5.272	5.795	.54
Health affects work	.065	.246	.092	.290	3.54***
Years of education	11.421	2.606	11.283	2.690	-1.81
Income to poverty ratio	355.534	157.177	355.195	176.405	-.06
ln (Income to poverty ratio)	5.78	.425	5.77	.451	-1.02
Poverty	.129	.336	.140	.347	.98

Note: Weighted baseline statistics from the 1967 data.

* $p < .05$ ** $p < .01$ *** $p < .001$

Data and Methods

THE SAMPLE

Longitudinal data provide the opportunity to examine dynamic processes. In this investigation we use the mature women cohort of the National Longitudinal Surveys of Labor Market Experience (U.S. Department of Labor 1999). These surveys, sponsored by the Bureau of Labor Statistics and the U.S. Department of Labor, gather information on the labor market experiences of particular birth cohorts of Americans as they age. Sampling procedures ensure that the experiences of African Americans and the economically disadvantaged can be examined and conclusions generalized to the larger population of Americans. The initial 1967 survey of mature women interviewed 5,083 respondents aged 30 to 44. By 1992, attrition had reduced the sample size to 2,953 respondents and the overall retention rate was 58.1%. By 1992, 11% of respondents had died since the original survey. The top reasons for noninterview in 1992 were refusal (25%), death (11%), and exclusion from the sample (4%) because of a noninterview in two consecutive years for reasons other than refusal. For this analysis, we used six observation points at five-year intervals — 1967, 1972, 1977, 1982, 1987, and 1992 — to study 2,060 respondents who had complete information on all variable measures.

Table 1 provides weighted comparative statistics for those in the analysis sample and those lost through sample attrition. Sample members are more likely to be married, less likely to be black, and less likely to report health limitations than

those lost to attrition, all advantages in terms of income security. However, poverty rates and ratio of household income to the poverty threshold (discussed in detail below) are the same for the two groups. Although the composition of the two groups is not identical, it is very similar. Further, whatever bias characterizes the analysis sample is consistent across all waves, thereby allowing a meaningful analysis of change (Pampel & Hardy 1994).

VARIABLE MEASURES

We include two types of measures in this analysis, status variables that do not vary over time, such as race, and time-varying covariates such as age, education, labor force status, wages, and marital status. The dependent variable incorporates information on poverty thresholds. The official poverty line was designed to establish an income floor that is necessary for a minimally acceptable standard of living for households.² A dichotomous measure of poverty status as an indicator of income security loses considerable information by dividing people into only two groups, thereby eliminating income variations that could prove informative. Household income (adjusted for inflation and family size) has been used as a measure of income security as well. The dependent variable of major interest in this study is a ratio constructed by dividing household income by the poverty threshold appropriate for year, age, and household composition. This income-to-poverty ratio (hereafter referred to as IPR) adjusts household income relative to the amount of income required to sustain that household at some minimum standard. Since poverty thresholds are annually adjusted for cost-of-living changes, the ratio is itself inflation adjusted and can be compared over time. The value of the ratio indicates the proportion of income required for the minimal standard of living. By definition, any ratio below or equal to 1.0 references a poverty household. Values greater than 1.0 report household income in multiples of the income floor (i.e., the poverty threshold). For example, a value of 2.0 indicates twice the income (or 200% of the poverty line); a value of 4 indicates quadruple the income (or 400% of the poverty line, and so on). Because we use the log transformation of this ratio expressed as a percentage, regression coefficients report the increment or decrement (in proportional units) associated with a unit increase in the value of the explanatory variable. Hereafter we will refer to the dependent variable as $\ln(\text{IPR})$.

The general model we estimate is a pooled cross-section time series model that allows multiple observations of individuals across time. The dependent variable is $\ln(\text{IPR})$; the independent variables include both ascribed and achieved characteristics of the women; models are developed by staging in main effects and interaction effects, as in:

$$\ln(\text{IPR}) = b_0 + b_1 \text{age dev} + b_2 \text{age dev}^2 + b_3 \text{black} + b_{4-8} \text{DVs} + b_9 \text{employed} \\ + b_{10-15} \text{EVs} + b_{16-k} \text{PVs} + e_{it} + u_i$$

In this specification, age is measured as a mean deviate, and the relationship between the dependent variable and age is entered as a quadratic, which allows the effect of age to vary across the age range.³ Black is a dummy variable indicating race. Education is included as a series of dummy variables (high school dropout, some college, college education, with high school diploma as the reference group)⁴ as is marital status (divorced, widowed, never married with married as the reference group); these variables are denoted *DVs* in the above specification.

Employment status is a dummy variable coded 1 if the respondent is working for pay in the survey year. Hours worked per year, job tenure (years with the same employer), class of worker (self-employed versus wage and salary, the reference group), and occupational prestige (Duncan's index, which is based on the education and income distributions of the occupation as well as its status ranking) are all entered as embedded variables (denoted *EVs* in the model). This technique (see Cohen & Cohen 1983) allows us to include independent variables that are observed only for a portion of the sample. In this case, observation is contingent on employment; nonemployed women are automatically coded 0.⁵ The final category of variables (*PVs*) indicate product interaction terms to test for differential effects by race and marital status. The coefficients represent the net effects of the independent variables averaged across all persons and time periods.

Estimation of longitudinal panel models requires an adjustment for correlated residuals across the multiple observations of the same individuals. Unmeasured heterogeneity (in the error term) that is correlated across observations results in consistent but inefficient OLS estimates (Pampel & Hardy 1994). A random effects model corrects for correlated errors under the assumption that unmeasured individual effects operate as a random variable. Unlike a fixed effects model, independent variables in random effects models may be time invariant. The error term in a random effects model separates the observation-specific component that meets the requirements for OLS estimation, e_{it} , from the individual-level component that is correlated across observations, u_i (Hsiao 1986).

Results

DESCRIPTIVE ANALYSIS

Table 2 provides weighted descriptive statistics for the sample. Respondents' ages range from 30 to 44 in 1967 to 55 to 69 in 1992. After weighting to adjust for the oversampling of blacks, 90% of the respondents are white, 10% are black. Almost half of the respondents earned high school diplomas but more than one-quarter dropped out of high school. Employment rates, 47% in 1967, peaked at 60% in 1977, falling to 37% by 1992. The percentage of respondents who were married declined over the years through divorce and widowhood, and health limitations

became more prevalent over time. Poverty rates were roughly the same in 1967 and 1992, having fallen by about one-third in intermediate years.

Because of the prominence of race, employment, and marital status as correlates of poverty across the life course, we begin by reporting conditional means of status variables within poverty categories in Table 3. Poverty rates for white women remained fairly constant over this period, while rates for black women declined during the quarter century, from 47% in 1967 to 35% in 1992. The proportion of employed women in poverty declined over the period, as did the proportions of both married and nonmarried women in poverty. And although women with health limitations were consistently more likely to be in poverty than those in better health, the difference in proportion narrowed over time, while the difference between poverty rates for those employed compared to nonemployed women grew larger over time.

RANDOM EFFECTS MODELS

Table 4 presents results for a series of random effects models with specifications of increasing complexity. In the first model, we estimated the curvilinear effect of age (specified as a quadratic) and race on the expected value of $\ln(\text{IPR})$. Because age is measured as a mean deviate, the constant estimates the expected value of $\ln(\text{IPR})$ at average age (approximately 50). The positive coefficient for age indicates a positive relationship between age and income security. The negative coefficient for age² (−.0008) indicates that the relationship between age and income security is steepest at younger ages, becoming progressively weaker at older ages. For example, for a white woman age 51 (1 on recentered age), the effect of age is .0067 − .0008 (1)². The positive effect of age on financial security for white women reaches a plateau at age 59 (the effect equals zero).

Black women had a predicted IPR less than 51% that of white women.⁶ We tested for race differences in the age – income security relationship and found that the curvilinear effect of age on IPR declined less with age for blacks than for whites. In other words, the effect of age for blacks is less arced, more nearly linear. For black women, the effect of an additional year of age is zero at age 64 instead of age 59, as it is for white women; thereafter it declines at a slower rate.⁷

In model 2 we assessed category differences by marital status. As expected, married women were, on average, most secure. Controlling for race and age, widowhood lowered IPR by 23%, divorce by 21%, and never marrying by 4%. The effect of race changed little despite the addition of further controls. The ending of a marriage through divorce or widowhood had a smaller effect on black women than on white women. Never marrying was a disadvantage relative to being married for both white and black women. However, its negative effect is considerably smaller than being divorced or separated among white women and significantly larger than being divorced or separated among black women.

TABLE 2: Demographic Characteristics of the Sample

Education	Percent (N)					
Less than high school	25.69 (529)					
High school diploma	42.71 (880)					
Some college	20.74 (427)					
College degree	10.86 (224)					
	1967	1972	1977	1982	1987	1992
Employed (N)	46.5 (960)	55.9 (1154)	59.8 (1234)	57.7 (1192)	50.0 (1032)	36.9 (760)
Married (N)	89.6 (1848)	87.6 (1808)	83.0 (1713)	78.0 (1607)	72.9 (1503)	66.4 (1370)
Divorced (N)	4.0 (83)	5.6 (117)	7.6 (157)	9.7 (202)	10.3 (212)	10.1 (208)
Widowed (N)	2.0 (40)	3.4 (70)	6.3 (132)	9.3 (193)	13.8 (287)	20.4 (242)
Never married (N)	4.4 (92)	3.3 (68)	2.9 (61)	3.1 (61)	2.9 (61)	3.0 (61)
Poverty	12.9 (267)	9.9 (204)	9.1 (187)	10.0 (205)	11.7 (242)	12.0 (248)
IPR mean (SD)	355.556 (157.214)	397.756 (186.047)	434.143 (212.942)	453.861 (222.710)	468.755 (272.750)	460.640 (298.269)
IPR median	332	366	398.14	424	417	389
ln(IPR) mean (SD)	5.785 (.425)	5.889 (.443)	5.965 (.471)	6.002 (.493)	6.005 (.545)	5.964 (.563)
ln (IPR) median	5.805	5.903	5.987	6.050	6.033	5.964
<i>Note:</i> Weighted						

Next, we added education and employment status to the equation (Table 4, model 3). More education provided an advantage; high school graduates did better than high school dropouts, and those with at least some college did better than both other groups. We found that employment status does modify the age effect,

allowing employed women to gain income security at a faster pace and to sustain those gains at older ages. With regard to racial differences, we found that advantages such as employment and higher education had a relatively larger impact on differentiating black women than differentiating white women. In fact, the age effect for black employed women is linear rather than an arc that decays with age.

Finally, when employment characteristics were added to the equation in model 4, the interpretation of the coefficient for employment status is linked to the measurement scale for other employment characteristics. Hours worked per year, job tenure, and Duncan's index of socioeconomic status (included as an indicator of better versus worse jobs) are also measured as mean deviates. That measurement, coupled with the inclusion of a dummy variable for self-employed (versus wage and salary workers) allows the coefficient for employment status to contrast nonemployed women with employed wage and salary women who work the average number of hours, in an average job, for the average number of years with the same employer. In this estimation, such employed women have predicted values 9% higher than nonemployed women. Further, the coefficients for self-employed status, job tenure, hours worked, and job type apply only to employed women. In other words, among employed women, working more hours in a better job held for a longer period of time significantly improved income security. Having a health condition that limited or prevented employment operated as a disadvantage but did not affect all women equally. The interaction term between health and race demonstrates that black women did not experience the negative effects of health limitations to as great a degree as white women did.

Figures 1 and 2 translate the statistical findings from Table 4 into life course trajectories for this cohort of women. To calculate IPR as age increases, we substituted covariate values into the final estimated model, summarized the various coefficient-covariate products, and then calculated the antilog so that the results would be expressed in the metric of household income to the poverty threshold. We therefore graphed the predicted values on the dependent variable for combinations of characteristics that were specified as independent variables.⁸ The *y*-axis is expressed as a percentage. For example, 300 means that the respondent's household income was triple the poverty threshold. The *x*-axis denotes age and, for purposes of these illustrations, ranges from 35 to 65.

Figure 1 presents trajectories for black and white women by employment status, health status, and college education (versus high school diploma). The trajectories display three distinct patterns of growth and decline. The bottom two curves show a gradual increase and then a plateau, characterizing black women who are not employed and have a high school education; the very small (nonsignificant) differences between these two curves is the health distinction.⁹ The next two curves have constant slopes and therefore demonstrate continual improvement across the observed age range. These trajectories characterize black employed women with a high school education; again, the nonsignificant difference reflects the presence or

TABLE 3: Proportion in Poverty by Year for Selected Variables

	1967	1972	1977	1982	1987	1992
White (N)	.09 (168)	.07 (131)	.07 (131)	.08 (149)	.09 (168)	.10 (187)
Black (N)	.47 (93)	.41 (81)	.33 (65)	.32 (63)	.36 (71)	.35 (69)
t Value	-15.85***	-16.38***	-12.87***	-11.39***	-11.53***	-10.77***
Employed (N)	.11 (106)	.07 (81)	.06 (74)	.06 (72)	.07 (72)	.05 (38)
Not employed (N)	.15 (165)	.13 (118)	.13 (108)	.15 (131)	.17 (175)	.16 (208)
t Value	2.56**	4.13***	5.47***	7.16***	7.36***	7.19***
Married (N)	.11 (203)	.08 (145)	.08 (137)	.07 (112)	.08 (120)	.07 (96)
Unmarried (N)	.28 (60)	.22 (56)	.16 (56)	.19 (87)	.22 (123)	.22 (152)
t Value	6.94***	7.09***	4.73***	7.77***	8.73***	9.65***
Health limits work (N)	.25 (34)	.19 (71)	.18 (78)	.19 (105)	.20 (130)	.19 (156)
No limitations (N)	.12 (231)	.08 (135)	.07 (114)	.07 (106)	.08 (113)	.07 (87)
t Value	-4.14***	-6.44	-7.36***	-8.35***	-8.54***	-8.40***

* $p < .05$ ** $p < .01$ *** $p < .001$

absence of a health limitation. The next two curves show the steepest ascent at younger ages and the beginnings of decline as respondents enter their sixties. These trajectories characterize white nonemployed women with a high school education. The larger gap between the lines reflects the significance of health differences among white women, with the healthier women being on a higher trajectory than nonhealthy white women.

Employment is the shared characteristic among the top four curves. The two topmost curves reflect healthy, college-educated, employed white women and black women, with high-school-educated, employed white women falling below. The returns to a college education for the black women in this cohort were significantly higher than for white women, which accounts for the larger gap between high school and college black women (curves 2 and 7) compared to the gap among white women (curves 1 and 3). This contrast suggests that advantages (marketable

characteristics) increased inequality more among blacks than among whites, and also that multiple advantages reduced the race gap between black and white women of this cohort.

Figure 2 displays the same sorts of trajectories as Figure 1. However, in this set we include differences in marital status and employment by race.¹⁰ As in the earlier figure, trajectories display different rates of growth and decline, with white women who are not married and nonemployed showing the sharpest declines and black women who are employed showing linear growth patterns. Figure 2 differs from the earlier figure, however, in that as women move into their sixties, the trajectories occasionally cross. For example, although white women who are divorced and employed begin at a lower point than those who are unmarried and not employed, women who are employed continue to build income security as they age, whereas women who are nonemployed tend to see their positions decline. Among black women, nonmarried employed women overtake married nonemployed women, with black divorced women crossing over at a younger age. In only one case do we see a trajectory for black women crossing that of white women. Black women who are both married and employed surpass white women who are divorced and not employed. White married women do best, regardless of whether they are employed outside the home. Black women fare worst, with those who are neither married nor employed showing minor growth, on average, but (within this age range) no decline.

Discussion and Conclusions

Research has documented that women's income in old age is substantially less than their male counterparts' and that they are more likely to live in poverty. But not all older women are equally vulnerable. The question we address in this article is how behavioral patterns propel women into different economic outcomes in old age. In other words, how do market advantages and disadvantages shape differences *among* women in later life? Because white women's financial security has historically been linked to marriage and the state, behavioral patterns that help women in this cohort avoid poverty should reflect this dependency. In contrast, black women have historically worked outside the home, suggesting that both employment and marriage may differentially translate into later life income security for white versus black women. Marriage and employment are matching processes. Marriage matches men and women by any number of status characteristics as well as temperaments, values, and preferences. Employment matches people to jobs on the basis of many of the same status criteria. The logic behind the cumulative advantage/disadvantage perspective is that people who fare well in one market often fare well in other markets, thereby adding one resource to another. Further, over time, these advantages can produce second-order benefits. Extending this

TABLE 4: Random Effects Model of Independent Variables on ln(IPR)

	Model 1	Model 2	Model 3	Model 4
Constant	6.035*** (.010)	6.065*** (.0102)	6.027*** (.0139)	6.0417*** (.0139)
Age (deviation)	.0067*** (.0003)	.0089*** (.0004)	.0095*** (.0004)	.0086*** (.0005)
Age ² (deviation)	-.0008*** (.0000)	-.0007*** (.0000)	-.0006*** (.0000)	-.0006*** (.0000)
Black	-.4914*** (.0200)	-.4809*** (.0200)	-.4466*** (.0327)	-.4650*** (.0317)
Age * black	-.0003 (.0007)	-.0010 (.0008)	.0000 (.0008)	-.0008 (.0008)
Age ² * black	.0003*** (.0001)	.0003*** (.0001)	.0003*** (.0001)	.0003*** (.0001)
Widowed		-.2331*** (.0166)	-.2432*** (.0163)	-.2480*** (.0161)
Divorced		-.2119*** (.0185)	-.2385*** (.0181)	-.2513*** (.0178)
Never married		.0388 (.0440)	-.0450 (.0409)	-.0879* (.0394)
Widowed * black		.1248*** (.0273)	.1336*** (.0267)	.1377*** (.0263)
Divorced * black		.0935** (.0332)	.0996** (.0324)	.1036** (.0319)
Never married * black		-.2313*** (.0643)	-.1432* (.0599)	-.1158* (.0577)
Less than high school (vs. diploma)			-.2440*** (.0209)	-.2168*** (.0197)
Some college (vs. diploma)			.0668** (.0221)	.0591** (.0207)
College (vs. diploma)			.2133*** (.0278)	.1775*** (.0263)

* p < .05 ** p < .01 *** p < .001

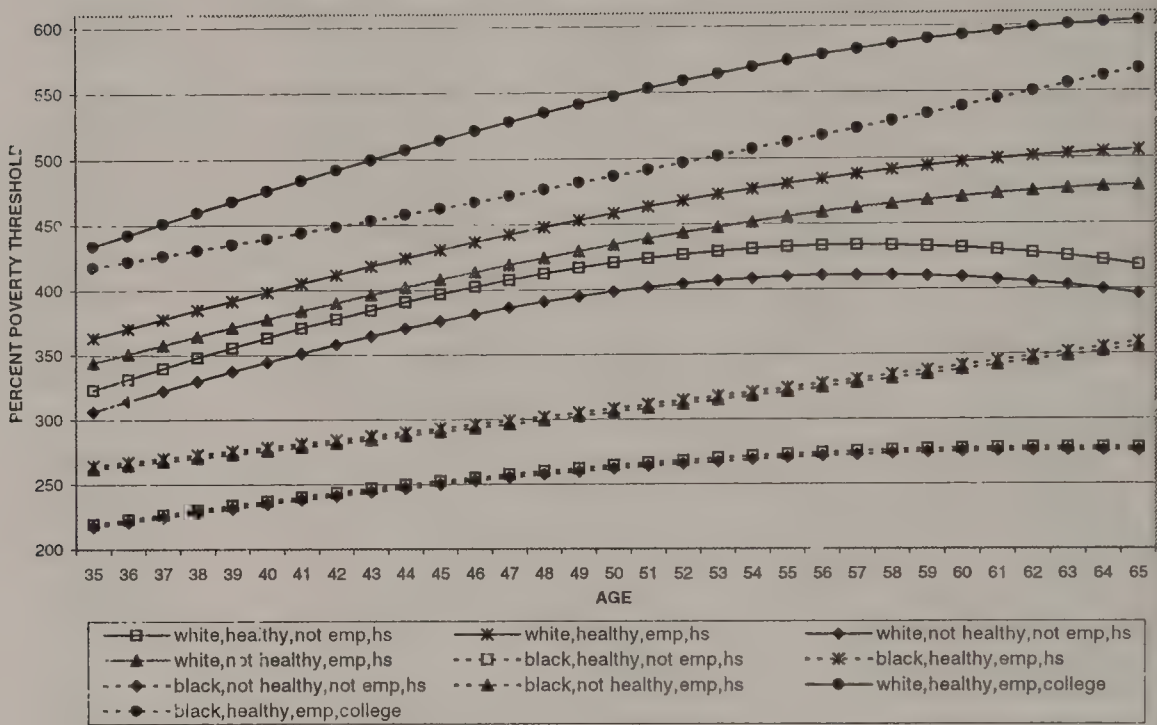
perspective across time therefore involves not only the accumulation of resources, but the fact that current resources can themselves generate future resources/opportunities, thereby fueling the process of accumulation. Through this mechanism, inequities at any point *in time* are exacerbated *over time* without any necessary change in behavior.

TABLE 4: Random Effects Model of Independent Variables on ln(IPR) (Cont'd)

	Model 1	Model 2	Model 3	Model 4
Less than high school * black			.0569 (.0386)	.0514 (.0362)
Some college * black			-.0574 (.0519)	-.0567 (.0486)
College * black			.3531*** (.0703)	.2793*** (.0662)
Employed			.1094*** (.0087)	.0860*** (.0111)
Employed * black			.0243 (.0171)	.0680*** (.0181)
Hours worked/year (mean deviate, in hundreds)				.0047*** (.0006)
Tenure (mean deviate)				.0054*** (.0006)
Health limits work				-.0540*** (.0105)
Self-employed				-.0011 (.0097)
Duncan's SEI (mean deviate)				.0022*** (.0003)
Age * employed				.0024** (.0007)
Age ² * employed				.0003*** (.0001)
Health limits work * black				.0448* (.0192)
R ²	.1813	.2136	.3275	.3606

The fit between the theoretical perspectives introduced earlier and the results of our study were best illustrated by the graphs of trajectories, since they depict changes across the life course, albeit through the use of ideal types. Three dimensions of the change in inequality with age are clear from these figures. First, inequality (as demonstrated by the range of start points on the left to end points on the right) increases across the life course. The range of positions at age 65 compared to age 35 increases by a factor of about 1.5. Second, if we look at just intra-racial variability, in other words, the inequality among whites or inequality among blacks, we see that intraracial inequality increases with age for both blacks and whites in Figures 1 and 2. Third, the racial gap between blacks and whites is

FIGURE 1: Predicted Age Trajectory for Percentage of Poverty Threshold by Race, Employment, Health, and Education

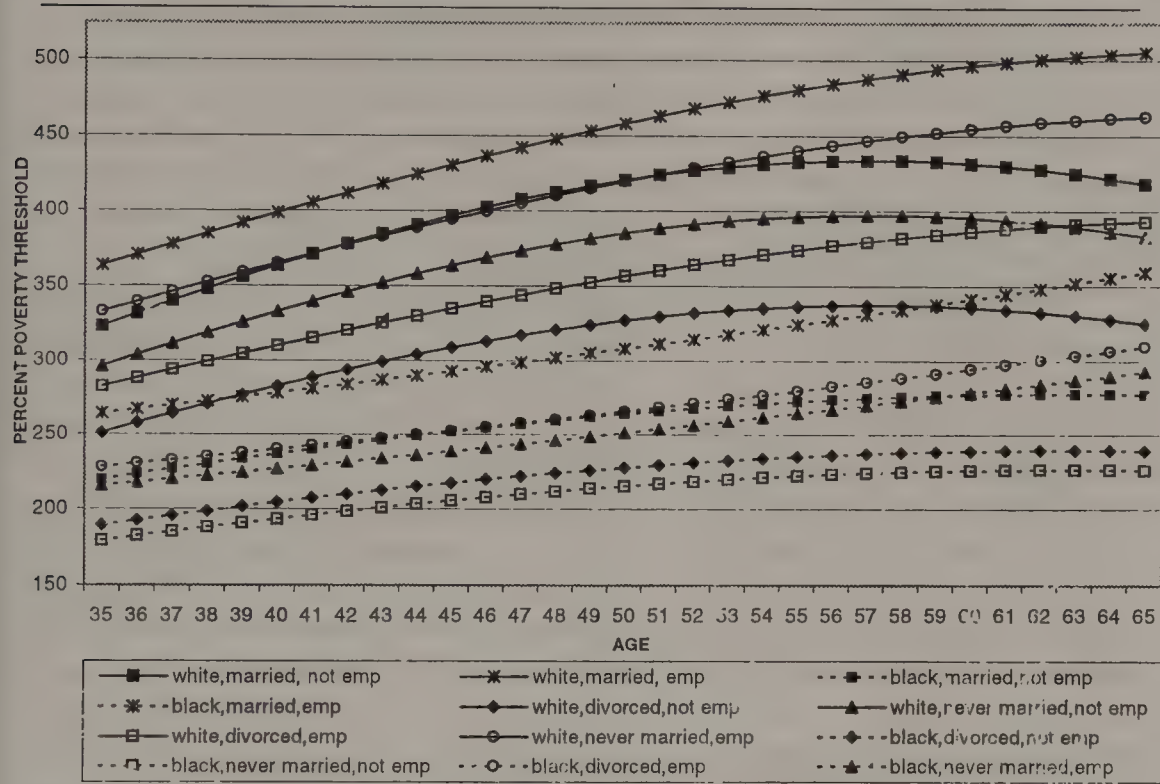


^aAll trajectories assume average tenure and SES for the employed.

generally reduced with age, primarily because the trajectories for black women show little or no decline, whereas the trajectories for white women show some or more decline with age. In general, then, we find some support for the transfer redistribution hypothesis, in that improvements that black women may experience, on average, are maintained. That, in fact, is the logic behind the redistributive portion of the Social Security benefit formula — those with lower incomes need a higher replacement rate to have a reasonable standard of living. But we also find considerable support for the cumulative advantage hypothesis, since the strongest growth (and sustainment) characterized those with the most advantages. For example, the pattern of accumulation was steeper for whites, who began with higher income security, than for blacks. These patterns also suggest the influence of floor effects. Black women who are neither married nor employed show little growth in income during the period, on average, and therefore little deterioration toward the end of the observation period. One likely explanation is that many of these women have been stabilized through income transfer programs (e.g., disability, welfare).

The women studied in this article were a transitional group. Born between 1923 and 1937, these were some of the young women in the factories during World War II, the mothers whose children broke through the barriers of segregation in the schools, among the first cohorts of women who were raised knowing they could

FIGURE 2: Predicted Trajectories of Percentage Poverty Threshold by Race, Employment, and Marital Status



^aAll trajectories assume no health limits, high school diploma, average tenure and average SES for the employed.

cast their ballots in elections when they came of age. These were women of the modern era, who benefited from, and often helped to bring about, each new advance in human rights. However, these women also experienced divorce in unprecedented numbers and took their places in the labor force in efforts to preserve a middle-class lifestyle after the dissolution of their marriages or as a hedge against a declining standard of living when single-earner households started to struggle.

Given the transitional nature of this cohort, employment was clearly an advantage, but it was more critical for black women, whose history of employment was established long before this cohort was born. Also, because black women have had to rely less on husbands for income security — more white women were married at some point throughout the 25 years of the survey, and nationally black men's average income is less than white men's — the disadvantage of a marriage ended through either divorce or widowhood was less severe for black women than for their white counterparts. Finally, to the extent that these differences characterized black women relative to white women at any given age at any given time, the relative benefits of certain choices grew over time, as did the relative costs of disadvantages. Although the process of building security through time was on a faster track at younger ages than at older ages, women who were employed experienced

less decay in income security as they aged, and employed black women experienced none at all.

The most secure women combined employment with marriage: not surprisingly, healthy, college-educated, employed, married white women fared best. But never-married employed white women fared almost as well, suggesting that for this cohort of white women, a career without marriage provided almost as much income security as employment and marriage. Similar to white women, for black women the best combination was to be employed and married. But second best was to be employed and either widowed or divorced, and last, never married.

We recognize that our study has examined the experiences of only one 15-year cohort of women as they aged. As a single cohort, they experienced a unique slice of history as they made the transition to adulthood, middle age, and began to enter old age. For those who were employed and for those who were married, the long period of postwar economic growth was manifested in wage growth (for the women themselves or their husbands) and the wider adoption of other forms of employment compensation, such as health insurance and pensions. By the late 1970s, the U.S. was entering a period of wage stagnation and the spread of pension coverage had plateaued. Although women in this cohort were more likely to be employed than women in previous cohorts, they were less likely to be employed (to have college degrees and to have access to higher-paying jobs and to employer-sponsored pension plans) than subsequent cohorts of women. Whether the intersection of employment status and income security will operate for newer cohorts as it did for this transitional cohort therefore remains an empirical question.

The conventions of marriage for younger cohorts are also different than they were for these women, who tended to marry in their early 20s and have children soon thereafter. And given the changes in access to higher education and higher-income jobs, younger cohorts of blacks may demonstrate greater variability in educational and occupational attainment than black women in our sample. But whether the general processes are reshaped or the composition of women is reshuffled, less variability in income security at older ages is unlikely. For this cohort of women, the range of predicted outcomes (i.e., the difference between "best" and "worst") grew considerably over the observation period. An increasing number of two-earner households, a growing reliance on market processes to sort households on the basis of retirement income in old age, and the individualization of public policy may well accentuate the returns to status for cohorts who have not yet reached old age, thereby propelling women into an expanding range of outcomes as they age.

Although the majority of women in our sample were somewhere in their 60s by the time of our last observation, this study is an early take on how these women will fare in old age. Nevertheless, our analysis provides a first look at the considerable variability in how income security for these women was built over time. Unfortunately, the absence of comparable data for a similarly aged cohort of men makes it impossible to directly address gender differences. And, as is the case for

all cohort studies, these women have approached and entered old age during a particular part of history. But this cohort of women was one of the earliest to embrace the idea of a career outside the family context. Our analyses show that they were more secure for having done so.

Notes

1. For example, life expectancy from birth is just shy of 80 years for white women, almost 6 years less for white men; life expectancy for African American women is only marginally higher than for white men, with African American men at 67.7 years (Hobbs & Damon 1999).

2. The poverty threshold measure was developed in 1964 by Mollie Orshansky, an economist for the Social Security Administration. She based the thresholds on the U.S. Department of Agriculture's estimated cost of a minimum adequate diet, multiplied by three to allow for other expenses. Thresholds were differentiated by family size, farm/nonfarm status, sex of family head, number of children, and age of family head. This measure became the basis of the Census Bureau's official annual estimate of the poverty rate. Thresholds are annually adjusted for inflation. In 1981 the farm/nonfarm distinction was eliminated, along with the distinction between male-headed and female-headed households.

3. By recentering the age distribution and using a quadratic functional form, the coefficients b_1 and b_2 have specific interpretations. The coefficient for age, b_1 , now estimates the marginal effect of age at mean age (i.e., when age equals 0). The coefficient for the squared term, b_2 , measures the increment or decrement to that marginal effect as age departs from the mean value. Therefore, the effect of age is contingent on the value of age itself, and is calculated as $(b_1 + b_2 \text{ age dev})$ (Aiken & West 1991).

4. We incorporated changes in the respondents' levels of education over the course of the survey. The survey updated women's educational attainment in 1977, 1982, and 1987.

5. Essentially, these variables are the same as interaction terms. For example, hours worked can be viewed as the product of hours of work and employment status: those employed are credited with a nonzero value for hours; those not employed are coded zero. The coefficients for these embedded variables estimated the marginal effect of a unit difference in the value of the independent variable on the expected value of the dependent variable for those employed.

6. Because the dependent variable is expressed as a natural logarithm and the explanatory variable here is a dummy variable, the coefficient for black multiplied by 100 indicates the percentage reduction in IPR linked to respondents' black status; a reduction of 49% ($.4914 * 100$) is equivalent to saying blacks have an expected IPR that is only 51% ($100 - 49$) of the expected value for whites, since whites are the reference group.

7. Because the age range of our sample extends to age 69, we realize that predictions beyond that age are not warranted and that predictions at the edge of that age range have relatively large standard errors (compared to predictions closer to the mean age). We report the age at which an effect becomes 0 simply as a descriptive device.

8. These predicted trajectories assume a constant state on the independent variables that determine their paths and are analogous to "ideal types." They do not represent individual women but instead are based on coefficients from the overall regression equation. One can assume that when actual individual women changed statuses, their trajectories' paths shifted in response.

9. In an effort to limit the number of distinct trajectories, we set some common values for certain characteristics. In Figure 1, we assume all women are married and all employed women are in wage and salary jobs of mean socioeconomic status (SES) for mean years of tenure.

10. Because the difference between widowed and divorced women was not statistically significant, we include those married, never married, and divorced on the graph.

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Social Origins, Adolescent Experiences, and Work Value Trajectories during the Transition to Adulthood*

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Abstract

This study links the trajectories of adolescents' work values during the transition to adulthood to key indicators of social origin and early experience. The findings, based on panel data from a national sample, indicate that individuals' work values change substantially during this period of the life course, with "average trajectories" of work values indicating some growing realism with age. Furthermore, work value trajectories are systematically tied to social origin and early experience, with gender and race playing a particularly important role both in initial adolescent work values and in changes that occur across the young adult years. The work values of young black women, for example, changed the most as they came to terms with their occupational opportunities.

The transition to adulthood represents an important area of sociological research in part because it constitutes a critical time in the formation of life pathways. Most research has concentrated on the demography of role transitions during this "demographically dense" (Rindfuss 1991) life stage, with studies of attainment

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focusing particularly on early labor market experiences. Less studied and consequently less understood are the changing achievement-related goals, values, and aspirations of young people during this consequential period of the life course. The study of adolescent aspirations and achievement-related attitudes does have a long history (Mortimer 1996), but these orientations have not often been considered subject to change across the life course. We know little about the nature of changes that may occur after adolescence. Moreover, little attention has been given to differences among adolescents in the formation and maintenance of goals, values, and aspirations.

In this study I examine the dynamic nature of work values as young people move through the early adult years. Three issues are of central concern: (1) the "overambition" of youth in the U.S. and other industrial societies; (2) subsequent changes that may occur in work values during the transition to adulthood; and (3) the links between key aspects of social origins, adolescent experiences in school and work, and work values across the transition to adulthood.

This study is grounded in a life course perspective. The worker role is one of the most important in adulthood, yet orientations toward work are not unchanging. They are continuously evolving, embedded within lifelong trajectories that reflect individuals' locations within the structures and contexts of society. Life course models, such as those employed here, contribute to a dynamic understanding of workers' lives and experiences, as they move from one life stage to another. In this study I examine work values as trajectories, having both levels and patterns of change over time, across a twelve-year period covering the usual age spread of the transition to adulthood (ages 19-20 to 31-32). The data come from a nationally representative panel study. Using latent growth models (Willet & Sayer 1994), I examine both "average trajectories" of work values during this time in the life course and the ways individuals' own work value trajectories reflect their social origins and early (pre- adult labor-market) experiences.

Background

THE OVERAMBICTION OF YOUTH

As adolescents finish high school and face important decisions about their futures, they are guided in their decision making by work-related and other types of value orientations. Indeed these value orientations play a critical role in status attainment processes. Youth's different orientations toward work become the bases for the selection of occupations and jobs (Davis 1965; Judge & Bretz 1992; Rosenberg 1957) and are associated with the attainment of important work rewards (Lindsay & Knox 1984; Mortimer & Lorence 1979).

Work values are defined by the importance attached to various rewards of working. Herzog (1982) and Marini et al. (1996) have distinguished among seven

types of work rewards. Extrinsic rewards include instrumental and status-attainment rewards, such as income, advancement opportunities, and prestige. Security refers to work stability. Intrinsic rewards reflect the inherent interest of the work, the learning potential, and the opportunity to be creative. Influence, though often combined with intrinsic rewards, refers to the opportunity to exercise power through involvement in decision making and challenging work. Altruistic rewards are derived from doing things for others, such as directly helping others or making a contribution to society. Social rewards are interpersonal and include positive relations with coworkers, the opportunity to make friends, and working with people. Finally, leisure refers to the opportunity for free time, vacation, and freedom from supervision.

Youth tend to value many types of job rewards highly, exceeding what will be available to them in the labor market as adults (Marini et al. 1996). Almost all high school seniors, for example, rate having "a job which is interesting to do," a key intrinsic job reward, as "very important" (Marini et al. 1996). Johnson (2001b) found that among fourteen job rewards rated by high school seniors, the median number considered "very important" was seven. At this stage in their development, adolescents do not tend to be highly selective in their judgments about the desirability of potential work rewards.

Schneider and Stevenson (1999) and Csikszentmihalyi and Schneider (2000) recently voiced strong concerns about the unrealistic nature of adolescents' ambitions. They found in their national study that adolescents held very high aspirations for their educational and occupational attainments, including strong interests in work rewards. Csikszentmihalyi and Schneider (2000) suggest the possibility that young adults will experience considerable disillusionment and frustration as they are unable to realize their aspirations and other preferences. Because work values, along with job characteristics, form the basis of job satisfaction (Kalleberg 1977), youth who settle for less desirable jobs than they had anticipated may feel less satisfied and experience lower levels of well-being.

Others have been concerned with the implications of ambitions for the social mobility systems of modern industrial societies. The "overambition" fostered among youth in the U.S. may have the potential to disrupt the mobility system in the absence of adjustive mechanisms (Hopper 1981; McClelland 1990). Achievement orientations, and the extent to which expectations are inflated, have implications for both individual lives and social stability.

CHANGES IN WORK VALUES DURING THE TRANSITION TO ADULTHOOD

The predominant view of work value formation, along with most research in the status-attainment tradition, implies that work values and aspirations take shape during childhood and adolescence. Often measured only once during adolescence, they are implicitly treated as static thereafter — exogenous to attainment. Youth enter the transition to adulthood, according to this view, with well-defined work

orientations. Yet growing evidence indicates that occupational aspirations change considerably during adolescence and the young adult years (Jacobs, Karen & McClelland 1991; Rindfuss, Cooksey & Sutterlin 1999; Shu & Marini 1997). Likewise, work values undergo major changes during this time (Johnson 2001a, 2001b).

With adolescents holding such high ambitions for the future, perhaps it should not be surprising that major changes occur in work orientations in subsequent years. Maintaining aspirations and values in the face of limited opportunities to satisfy them would seem to invite damaging psychological repercussions, if not widespread questioning about the legitimacy of the social mobility system. Changing one's work values may be a key means of adjustment to occupational limitations.

The high value that adolescents place on work rewards along with the likelihood of subsequent change in work values raises several questions about the nature of work values during this time in the life course. As adolescents embark on the transition to adulthood, are their work values closely tied to their social backgrounds as traditional attainment models would suggest? Will work values more strongly reflect social origins when greater realism in expectations sets in? In other words, given considerable "overambition," and instability of work-related values, are the full effects of social origins already reflected in adolescents' work values or do social origins continue to play an important role in shaping values in the young adult years? Might academic and work-related experiences that advantage students in high school also shape the course of work values in the years afterwards, possibly mediating the effects of social origins? In the following section, I examine the extant literature for ways in which it might inform our understanding of these issues and build a rationale for expecting social origins and adolescent experience to influence work values across the transition to adulthood.

FACTORS RELATED TO WORK VALUE FORMATION AND CHANGE

Social Origins and Adolescents' Work Values

The sources of adolescents' work values are not yet well understood (Mortimer 1996). Current frameworks point to the roles of social class and gender in children's and adolescents' developing work values, but little attention has been given to other potential sources of influence. After considering the roles of class and gender, I suggest that several other aspects of adolescents' social backgrounds influence work values, including race, the type of community in which they grow up, and connections to religious institutions.

Work values are thought to develop initially as a function of parents' socioeconomic positions (Mortimer, Lorence & Kumka 1986). Aspirations (and achievement ambitions more generally) vary by social class, and in the basic status attainment model provide the key link between the socioeconomic backgrounds of individuals and their later educational and occupational attainments

(e.g., Alexander, Eckland & Griffin 1975; Sewell & Hauser 1975). With respect to work values in particular, the characteristics of parents' jobs are thought to shape parents' values and in turn their child-rearing goals and behaviors (Gecas 1979; Kohn 1969; Mortimer & Kumka 1982). Workers in higher social-class positions place greater importance on influence and intrinsic work rewards and less importance on extrinsic rewards and security than do other workers (Kohn & Schooler 1983; Lacy, Bokemeier & Shepard 1983). Children's work values develop in ways that reflect their parents' positions in the occupational structure.

Along with class differences, gender plays an important role in the formation of work values, reflecting historical differences in men's and women's familial roles as well as the characteristics of jobs that have been typical for each sex. Studies of youth and college students have generally found that females place greater importance than males on intrinsic, altruistic, and social job rewards and that males place greater importance than females on extrinsic job rewards and leisure (Bridges 1989; Herzog 1982; Lueptow 1980; Marini et al. 1996). In recent cohorts (those graduating from high school in the mid-1980s and early 1990s), young women appear to have "caught up" with young men in the importance they attach to extrinsic job rewards, though other gender differences have remained (Marini et al. 1996).

A broader view of social location for children's and adolescents' developing work values points to other potential sources of influence, including race, characteristics of the community, and participation in voluntary social institutions like religion. Studies of adults, for example, show that blacks place greater importance than whites on having a high income, a key extrinsic job reward, and less importance on gaining "a feeling of accomplishment," an intrinsic job reward (Martin & Tuch 1993). It is thought that blacks' persistently disadvantaged economic position fosters greater concern for financial well-being and job security. These differences emerge even with statistical control of individual worker's social class positions, job characteristics, and family backgrounds and may therefore indicate distinct cultural variation in values.

Race and gender together may shape work values. During the twentieth century, black women were involved more heavily than white women in the financial support of their families, and this may be reflected in different value orientations. Consistent with this argument, some evidence suggests that black women and black girls tend to value the monetary rewards of working more than black men do (Martin & Tuch 1993; Thomas & Shields 1987).

Communities also differ in the values they hold and encourage in children. Members of rural communities are often less materialistic and more conservative in orientation, and adolescents reared in such communities may not emphasize extrinsic rewards, like pay, but rather stress job security. In particular, young people from farms seem to attach even less importance to money and materialism than do other rural youth (Elder & Conger 2000). Adolescents from farming families may also embrace stronger altruistic work values, because their families tend to be

more engaged in community social institutions and tend to do more volunteer work (Elder & Conger 2000).

Religious congregations share values that constitute part of the culture children learn as well. Because all major religions emphasize service, charity, and caring for others, involvement in any religious community should entail exposure to a set of people-oriented values. The strength of religious ties may indicate the degree to which young people share and embrace those values. Religiousness might therefore foster an emphasis on the altruistic and social rewards of work.

The Continuing Significance of Social Origins for Work Values

It seems likely that social-class background and other aspects of social location may not enter fully into young people's expectations for the future while they are still in high school (Mortimer et al. 1996; Schneider & Stevenson 1999). Despite curricular differentiations and variations in academic success, adolescents are in more similar social roles and structural circumstances in high school, irrespective of social-class origins, than they will be upon leaving high school. Constraints on future options may not be completely apparent at this time, especially given the pervasive ideology in society and in educational institutions of equal opportunity for all. However, when adolescents leave high school and embark on different pathways with respect to education, work, and family formation, success in these mobility-relevant pathways will continue to be related to differences in resources in the family of origin as well as other differences in young people's ascribed and achieved characteristics.

Johnson (2001a) suggests that when young people become aware of the opportunities available to them and the constraints they face, their work values change accordingly. These adaptations ought to be linked to key aspects of social origin (e.g., race, class, and gender), which structure opportunities and regulate access to resources that can be used to achieve goals. Sex and race discrimination, for example, affects the chances that individuals can turn their work aspirations and values into reality. Those experiencing fewer constraints or having greater resources to implement their goals ought to be more likely to maintain earlier values.

As McClelland (1990) and Jacobs et al. (1991) point out, Bourdieu's framework shares the idea that social origins have an ongoing influence on aspirations (see Bourdieu 1973; Bourdieu & Passeron 1977). Bourdieu suggests that goals are formed and modified in an experiential fashion based on individuals' perceptions of the probability of achieving a given goal. Both consciously and unconsciously individuals draw conclusions from the world around them about the chances of reaching a goal, and their hopes tend to reflect these conclusions. Individuals' social backgrounds shape perceptions of the probability of success and influence the way new experiences are understood. These new experiences further shape the structure of perceptions. Moreover, social background structures the opportunities and

constraints experienced in life, which become part of the assessment of whether or not a goal can be realized. As such, social backgrounds are continuously relevant to goal formulation and reformulation.

Advantaged origins and experiences might engender stability in values in the years following adolescence. Young people from higher class backgrounds are more able to achieve their occupationally relevant goals. This happens in part through greater access to higher education, but social-class origins also affect the attainment of occupational rewards as careers progress (Girod, Fricker & Körffy 1973; Mortimer, Lorence & Kumka 1986). This should have important implications for maintaining work values, as they tend to be reinforced through rewarding work experiences (Lindsay & Knox 1984; Mortimer & Lorence 1979). Young workers who have difficulty obtaining the work rewards that initially value may come to value those rewards less (Johnson 2001a).

In addition, adolescents from more advantaged social-class backgrounds may also draw on internal resources — they may be more informed about the types of work available, the characteristics of different jobs, and the educational and training requirements for entering various occupations. Adolescents of more highly educated parents are more likely to learn about and practice skills relevant to their future occupations (Csikszentmihalyi & Schneider 2000). Such knowledge of the work world has been shown to promote stability in occupational aspirations (Shu & Marini 1997). Armed with greater levels of knowledge prior to entry into the adult labor force and better equipped to overcome obstacles, young people from higher class backgrounds may experience less change in their work values.

Labor-market opportunities are structured in important ways by gender and race as well, and changes in work values may likewise reflect differential access to work rewards. As such, gender and race may also continue to shape work values over time. To the extent that white males have greater access to the work rewards they value, for example, they may enjoy greater stability in their work values.

Adolescent Experiences and Work Values

Beyond social origins, adolescents enter the transition to adulthood with varying academic and work-related experiences. These experiences are themselves partly a function of social origins and thus may mediate the influence of social origins on adolescents' changing work values. In fact, some critics of the basic status-attainment model have argued that differences among adolescents from various socioeconomic backgrounds in actual experiences at school and work may be more critical than early childhood socialization for educational and occupational outcomes (e.g., Kerckhoff 1976). Academic and work-related experiences may also make unique contributions to work values and their patterns of stability and change over time, as both represent major arenas in which adolescents can explore their work interests and values.

With respect to educational experiences, high school curriculum and academic achievement could influence patterns of stability and change in work values during the transition to adulthood. Both structure later educational and occupational opportunities (Bowles & Gintis 1976; Dornbusch, Glasgow & Lin 1996). High-achieving students and those in an academic track may experience less change in their work values after high school, as they are in a better structural position to realize their aspirations. As with social class advantage, these adolescents may also have better “occupational knowledge” and will experience fewer barriers to implementing their work-related desires. Evidence on changes in the occupational aspirations of youth is consistent with this argument. Better grades and participation in an academic curriculum predict more stable occupational expectations in the years following high school (Rindfuss, Cooksey & Sutterlin 1999).

Finally, adolescents’ work investments could also have important formative influences on their work values, since they provide exposure to the conditions of employment and can foster thinking about desired future work life (Mortimer et al. 1996). Employment may also improve “occupational knowledge.” For these reasons those with greater work investments may experience less change in their work values over time.¹

The Study

PURPOSE

Taking advantage of rich panel data on the work values of American adolescents from high school to their early thirties, this study investigates whether individuals’ trajectories of work values are linked to social origins and early (pre- adult labor-market) experience. Conceptualizing work values as trajectories recognizes that adolescents may consider certain job rewards important as they leave high school but that these job rewards may become more or less important to them over time and that adjustments may occur immediately, after some extended period of time, or steadily over the years. Each adolescent’s orientation toward a type of job reward can be tracked, with an initial starting level and rate of change over time.

The overarching purpose of the study is to examine the influence of social origins and adolescent experiences on these work value trajectories — their starting levels and how they change during the transition to adulthood. The first objective is to better identify the sources of adolescents’ work values, focusing on key aspects of social origins and adolescent experience. Adolescents’ work values should not only reflect their likely future positions in the occupational structure but also a range of cultural and social influences from childhood and adolescence. An important part of this objective is to examine whether the influences of social origin occur mainly through experiences in adolescence. I examine five aspects of social origin, including parents’ social class, gender, race, community type of origin, and

religious background. Several aspects of adolescent experiences are examined as well, including academic experiences and work investments during high school. The second objective is to determine whether or not social origins continue to influence work values during the young adult years, as careers take shape. Investigating this has the potential to greatly enhance our understanding of the status-attainment process. Together, these objectives address the issue of the timing of social origins' influence on work values.

DATA

The data are from a panel component of the Monitoring the Future survey, a repeated cross-sectional survey of U.S. high school seniors carried out annually since 1976 (Bachman et al. 1997; Johnston, O'Malley & Bachman 1998). The Monitoring the Future data were collected using a multistage cluster sampling technique that included 125 to 140 public and private schools in order to obtain a nationally representative sample of high school seniors. From the original participants in the senior-year survey, a representative subsample of participants was chosen each year to participate in the panel study. The analysis is based on panel data collected from this subset of participants for each of the five senior-year cohorts, 1976-80. The data were weighted to adjust for unequal probabilities of selection resulting from the sampling procedures. It is important to note that, because the original sample was drawn from seniors in high school, few participants did not obtain at least a high school diploma. High school dropouts cannot be assumed to embrace work values similar to those found here.²

The respondents were first surveyed during their senior year of high school. This analysis of work values is based primarily on seven biennial follow-up surveys after the senior year of high school; participants were approximately 31- 32 years old at the time of the seventh follow-up.³ This 12-year period defined by the seven survey administrations covers the primary ages of the transition to adulthood. Respondents completed mailed questionnaires in the spring of each follow-up year. Because the five cohorts were separated by a maximum of four years, no cohort difference was anticipated and indeed none was found.⁴ Therefore, the cohorts were combined in this analysis ($N = 2,373$ for the combined group, including 2,187 blacks and whites analyzed here).

With a short range of cohorts, the analysis necessarily focuses on changes in work values during the transition to adulthood as they were experienced during a particular historical period. Because change in work values is expected in part to result from adaptation to opportunity structures, markedly different cohorts may experience different trajectories of change. Unemployment rates for young people between 1975 and 1985, for example, when many of the study group were entering the labor market, were higher than they were earlier in the 1970s and especially later in the 1990s (U.S. Census Bureau 1987, 1995, 1999). Young adults who entered

the labor market in the 1990s can be expected to have encountered different opportunities in part due to lower unemployment but also due to other changes, such as technological changes resulting in new and different jobs.

MEASURES

Work values were measured in the seven follow-up surveys by the question, "Different people may look for different things in their work. Below is a list of some of these things. Please read each one, then indicate how important this thing is for you (not important, a little important, pretty important, very important)." Following previous studies of work values that used the Monitoring the Future data, seven work value domains were distinguished (Herzog 1982; Marini et al. 1996). The wording of the items for each value dimension is shown in Table 1. This dimensional structure of work values, measured by the items listed, has been supported by exploratory and confirmatory factor analyses and has demonstrated structural invariance over time (Herzog 1982; Johnson 2001b; Marini et al. 1996). Within each value domain, responses to the indicators were averaged.

Measures for all other variables were taken from the senior-year survey. Race, measured by self-identification, distinguished blacks, whites, or members of other races. As whites and blacks were the only groups specifically identified in the data, the analysis was limited to them. Because interaction effects were hypothesized for gender and race, the analysis was performed using dummy variables derived by the cross-classification of these two variables. Black women represent the omitted category. Social class was measured by the educational attainment of the most-educated parent (1 = completed grade school or less; 2 = some high school; 3 = completed high school; 4 = some college; 5 = completed college; 6 = graduate or professional school after college). Other common measures of social class, like mother's and father's incomes and occupations, were not available. The type of community in which the respondent was reared was measured by five categories: living on a farm, otherwise living in a rural area, living in a city or town with fewer than 50,000 people, living in a city of more than 50,000 people, and living in a suburb (of any size city).⁵ Religiosity was measured by the question: "How important is religion in your life? (not important, a little important, pretty important, very important)."

Experiences during adolescence were represented by academic experiences and paid work investments. High school curriculum was measured by distinguishing those in an academic curriculum from those in another curriculum. High school achievement was measured by grade point average on an eight-point scale from 1 = C- or below to 8 = A. Teenage employment was measured by the number of hours respondents spent in paid work per week during the senior year of high school, measured in eight categories (1 = none, 2 = 5 hours or less, 3 = 6-10 hours, 4 = 11-15 hours, 5 = 16-20 hours, 6 = 21-25 hours, 7 = 26-30 hours, and 8 = more than 30 hours). Nearly all respondents reported working. I experimented

TABLE 1: Measurement of Work Values

Each item rated from 1 (not important) to 4 (very important)

Extrinsic Rewards

- A job where the chances for advancement and promotion are good
- A job which provides you with a chance to earn a good deal of money
- A job that most people look up to and respect
- A job that has high status and prestige

Security

- A job that offers a reasonably predictable, secure future
- A job which allows you to establish roots in a community and not have to move from place to place

Influence

- A job where you get a chance to participate in decision making
- A job where most problems are quite difficult and challenging

Intrinsic Rewards

- A job which is interesting to do
- A job which uses your skills and abilities — lets you do things you can do best
- A job where you can see the results of what you do
- A job where the skills you learn will not go out of date
- A job where you can learn new things, learn new skills
- A job where you have the chance to be creative

Altruistic Rewards

- A job that gives you an opportunity to be directly helpful to others
- A job that is worthwhile to society

Social Rewards

- A job that gives you a chance to make friends
- A job that permits contact with a lot of people

Leisure

- A job which leaves a lot of time for other things in your life
 - A job which leaves you mostly free of supervision by others
 - A job where you have more than two weeks' vacation
 - A job with an easy pace that lets you work slowly
-

with various cutoffs in hours worked to capture nonlinear patterns of association but found that this ordinal measure best represented the relationships between hours worked and work values.

It should be noted that, unlike the indicators of social origins, no clear causal order exists for the relationship between academic experiences and teenage employment and the initial expressions of work values as measured in the first follow-up survey. Although the measures of adolescent experiences are taken prior to the measures of work values, these experiences may still reflect earlier (unmeasured) work values. As such, all discussion of these relationships should be considered merely associative. This problem does not apply to the examination of changes in work values.

ANALYTICAL STRATEGY

The questions posed in this study focus on individual differences in adolescents' values and differences in value change over time. One young person may initially evaluate extrinsic rewards, like pay and prestige, as highly important but over time find these rewards less and less important. Another young person may continue to consider these rewards highly important throughout the years. The detailed panel data from Monitoring the Future enabled the tracking of adolescents' values as they follow different trajectories. The analytical technique chosen for this study needed to draw on the information adolescents provided about their work values over seven points in time and relate individual differences in change across time to other characteristics of the adolescents. Latent growth (or latent curve) techniques meet these criteria (Muthén & Khoo 1998; Willet & Sayer 1994). The technique is a type of random coefficients approach, whereby the starting levels and rates of change can vary across individuals.

Within a structural equation modeling framework, a trajectory representing initial levels and changes over time is defined in terms of unobserved latent factors (Willet & Sayer 1994). Repeated measures of the phenomena under study are used as indicators of an underlying (latent) trajectory. Thus the latent growth model can be thought of as a highly constrained confirmatory factor-analytic model. The model uses both the between-wave covariance matrix and the mean structure and allows examination of both group change parameters and individual variation in change. Other frequently used alternatives in studying change have included estimating a series of two-time-point comparisons or more generally estimating autoregressive models in which more than two time-points can be incorporated. These approaches, while valuable for some purposes, are not sensitive to individual differences in change over time.

In a linear latent growth model (see Figure 1A), the first latent factor defines the intercept of the trajectory. Factor loadings are set to 1.0 to represent the starting point of the trajectory at time 1. The second latent factor defines the slope of the trajectory, representing the rate of change in the phenomena under study. If factor

FIGURE 1A: Linear Growth Model for a Hypothetical Value (V) Measured at Four Time Points

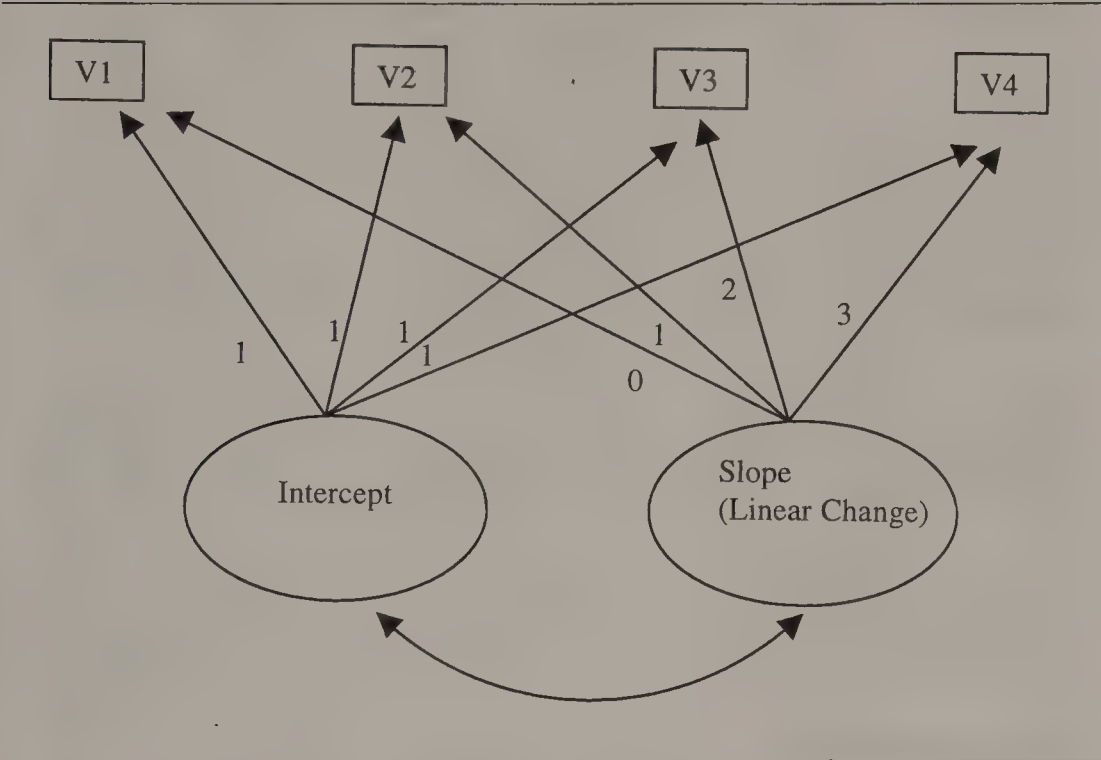


FIGURE 1B: Quadratic Growth Model for a Hypothetical Value (V) Measured at Four Time Points

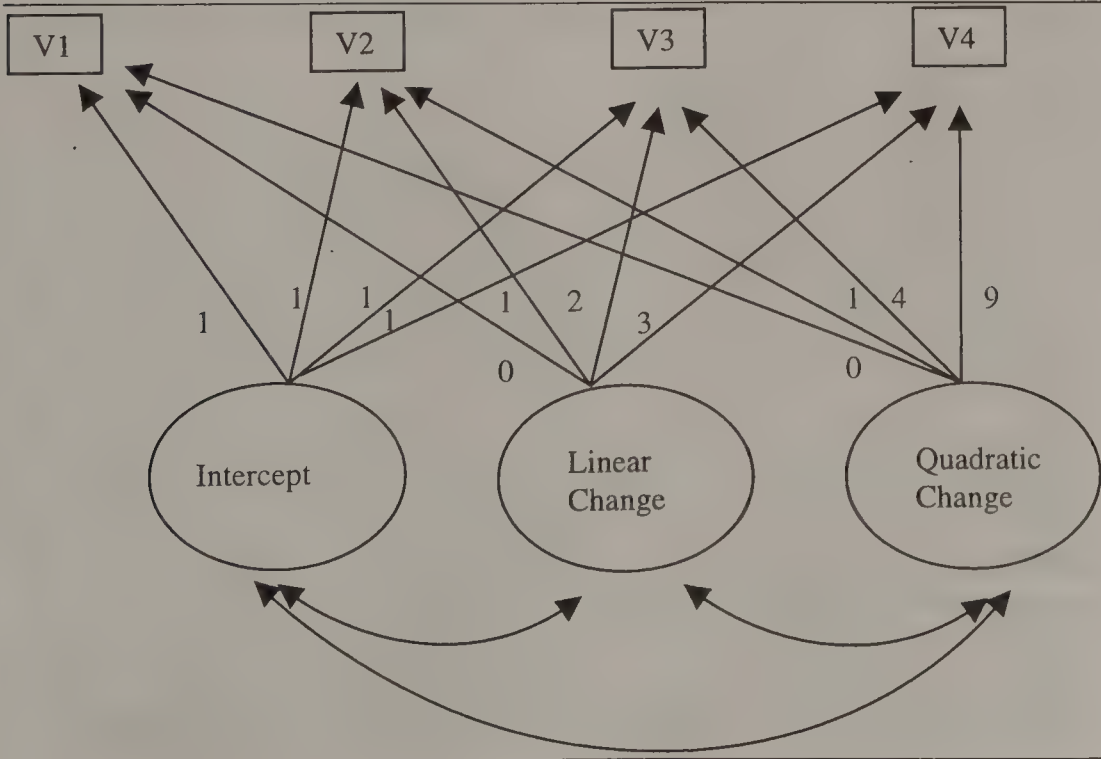


TABLE 2: Parameter Estimates of the Unconditional Latent Growth Models for Work Values

	Extrinsic Values		Security Values		Influence Values		Intrinsic Values	
	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.
Mean of growth factors								
Intercept growth factor	3.024	.014**	3.237	.015**	2.653	.015**	3.450	.009**
Linear growth factor	-.028	.008**	-.013	.009	.059	.009**	-.012	.005
Quadratic growth factor	-.004	.001*	.004	.001*	-.008	.001**	-.001	.001
Variance of growth factors								
Intercept growth factor	.266	.014**	.264	.017**	.265	.018**	.080	.006**
Linear growth factor	.038	.004**	.048	.006**	.045	.007**	.011	.002**
Quadratic growth factor	.001	.000**	.001	.000**	.001	.000**	.000	.000**
Covariance among growth factors ^a								
Intercept with linear	-.026	.006**	-.035	.009**	-.023	.009	-.003	.003
Intercept with quadratic	.002	.001	.003	.001	.001	.001	.000	.000
Linear with quadratic	-.005	.001**	-.006	.001**	-.005	.001**	-.001	.000**
Goodness of fit indicators								
χ^2 (df = 19)	46.192**		58.330**		56.648**		32.004	
RMSEA	.026		.031		.030		.018	

loadings are set to 0, 1, 2, 3, . . . , as shown in Figure 1A, the slope is defined as linear. The means of the latent intercept and slope factors are measures of the average intercept and slope across all respondents. The variances of the latent factors reflect the variation of individuals' trajectories around the overall group parameters. The covariance between the latent factors indicates the extent to which the level of the intercept is associated with the rate of change. The basic model can easily be altered to model nonlinear trajectories. As shown in Figure 1B, a third latent growth factor can be added to represent a curvilinear trajectory. In this case the trajectory takes a quadratic form, with factor loadings on the third factor set to 0, 1, 4, 9, and so forth.

I first examined unconditional latent growth models for each type of work value to determine the form of the change over the 12-year period of study. I then estimated conditional latent growth models in which the growth factors were regressed on the indicators of social origins and adolescent experiences. All models were estimated using Mplus (Muthén & Muthén 1999).

Panel attrition often results in a sample of retained panel members who differ in important ways from those who have left the study. Panel retention for the original senior-year participants was approximately 66% in the seventh follow-up survey.

TABLE 2: Parameter Estimates of the Unconditional Latent Growth Models for Work Values (Continued)

	Altruistic Values		Social Values		Leisure Values	
	Est.	S.E.	Est.	S.E.	Est.	S.E.
Mean of growth factors						
Intercept growth factor	3.189	.016**	3.072	.016**	2.495	.014**
Linear growth factor	−.077	.009**	−.105	.010**	−.010	.008
Quadratic growth factor	.005	.001**	.004	.002	.003	.001
Variance of growth factors						
Intercept growth factor	.317	.019**	.330	.020**	.228	.014**
Linear growth factor	.040	.006**	.058	.007**	.031	.004**
Quadratic growth factor	.001	.000**	.001	.000**	.001	.000**
Covariance among growth factors ^a						
Intercept with linear	−.026	.009*	−.046	.011**	−.029	.007**
Intercept with quadratic	.001	.001	.004	.001*	.002	.001
Linear with quadratic	−.005	.001**	−.007	.001**	−.004	.001**
Goodness of fit indicators						
χ ² (df = 19)	31.651		63.786**		78.358**	
RMSEA	.017		.033		.038	
(N = 2,187 for each)						

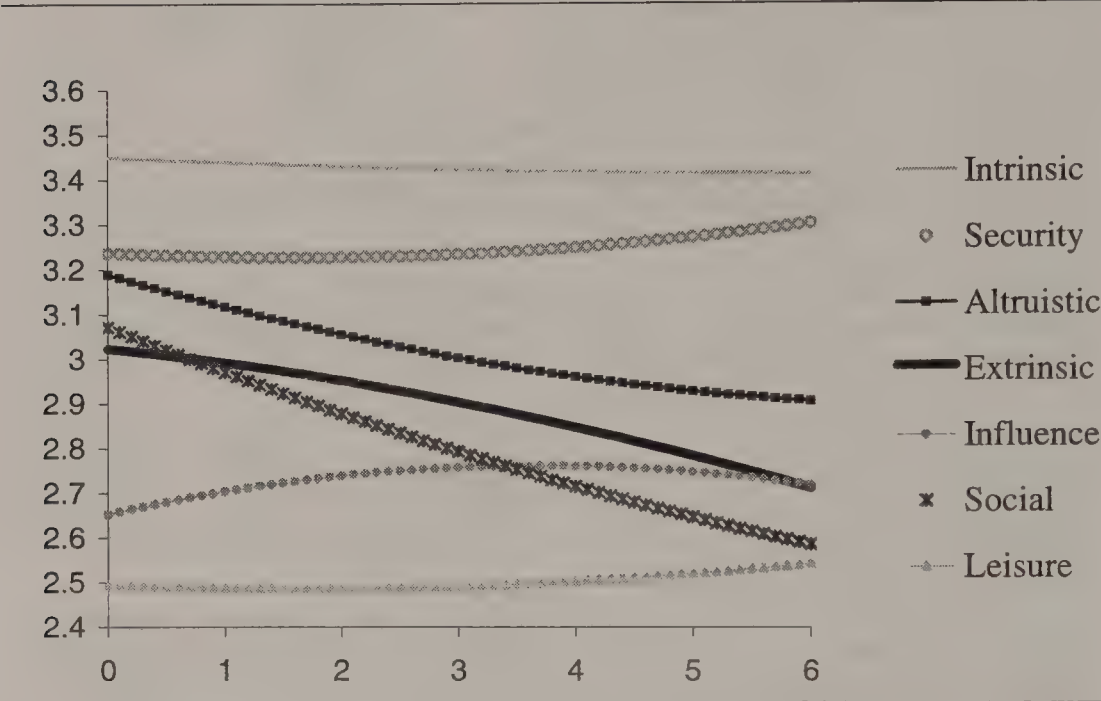
^a The covariances among the growth factors indicate whether initial levels of work values are associated with the rate of change experienced subsequently.

* $p < .01$ ** $p < .001$

(Of those who initially participated in the follow-up study, 82% were retained in the seventh follow-up.) Basing analyses only on those respondents who completed all waves of the survey could introduce bias in the findings. For example, panel members who continued through the seventh follow-up differed somewhat in their senior-year work values compared to those who left the study before the seventh follow-up. Compared to those who remained in the study, those who left the study early attached more importance to earnings, respect, status or prestige, and a job that leaves time for other things when they were surveyed in high school. (Further information on panel attrition is provided in Bachman et al. 1996.)

To address this problem I employed the missing data option in Mplus, which uses information from all observations to estimate model parameters employing a maximum likelihood estimator. In this procedure missing data are not imputed; rather, the program uses all data available to estimate the model parameters (see Little & Rubin 1987). Because panel retention was higher in the earlier waves, in

FIGURE 2: Work Value Trajectories (Based on Means of the Growth Factors)



many cases measures of work values were available for some but not all of the follow-up waves. A major advantage of this approach therefore is that the available information on these cases is used.⁶

Results

DESCRIBING WORK VALUE TRAJECTORIES

What happened to young people's work values as they moved through the transition to adulthood? A mismatch between initial perceptions of the opportunity structure and actual experiences could lead to a reassessment of achievement-related desires. Did this involve a change in the importance of work rewards for adolescents as a group? Unconditional growth models describe respondents' basic work value trajectories (without any predictors). Change in respondents' work values over this period of time was best captured by quadratic-form growth models. (See the Appendix for a discussion of how this was determined.) The parameters for these unconditional models are shown in Table 2.

The means of the growth factors define an average trajectory across respondents, which is shown pictorially for each work value in Figure 2. In other words, these parameters provide the average initial level and pattern of change across the respondents' trajectories. It is important to note the relatively high mean levels of the intercepts. These young people attached great importance to the work rewards, a plausible symptom of the pervasive "overambition" of adolescents in modern

industrial societies like the U.S. (Jacobs, Karen & McClelland 1991; McClelland 1990). Intrinsic rewards were rated most highly, with an average intercept of 3.45 on a scale from 1 to 4. Altruistic rewards and security also were rated highly on average.

Extrinsic work values were characterized by a downward-shaped average trajectory, indicating that these job rewards became less important on average over time (see the means of the linear and quadratic growth factors in Table 2, or see Figure 2). The quadratic form of the trajectory indicates that the rate of change in the importance of these rewards increased slightly with age. Altruistic and social values also showed downward average trajectories over time, though in these instances the quadratic form of the equation indicates that the rate of change slowed slightly with age. On average, greater adjustments in these values were made earlier in the transition to adulthood.

The other four types of work values changed less on average over time. The values of security and influence were characterized by a statistically significant upward trajectory, but as can be seen in Figure 2, the amount of change over the twelve-year period was small and cannot be considered a substantively meaningful change. The values of intrinsic rewards and leisure did not show statistically significant changes on average over time.

On average then, three types of work values followed trajectories of substantial change during the transition to adulthood. This change is easily seen in the ratings of each job feature over time. In the items used to measure extrinsic rewards, about 53% of respondents in the first follow-up survey indicated that advancement opportunities were very important whereas only 37% did so in the last observation twelve years later. About 37% rated the chance to earn a good deal of money as very important in the first follow-up, whereas only 26% did so twelve years later. The number of respondents rating them as very important similarly dropped for having a job that people respect (from 26% to 16%) and for having a job with high status and prestige (from 15% to 6%). In the items used to measure altruistic rewards, about 44% of all respondents in the first follow-up survey indicated that helping others on the job was very important, whereas only 31% did so in the last survey. About 39% of the young people rated a job that was worthwhile to society as very important in the first follow-up, whereas 26% did so twelve years later.

The change in the importance of social rewards was more dramatic. In the first follow-up survey 49% of the young people thought having an opportunity to make friends was very important, and 30% thought working with people was very important. These figures dropped to 20% and 16% respectively in the last follow-up survey. Adolescence is a life stage noted for its strong peer orientation, and social values may be heightened during this time. In addition, the disruption of social networks with the end of the high school years may also contribute to the importance attached to social rewards at this age. Findings from a panel study of young men suggest that perceptions of being "sociable" similarly decline throughout the twenties (Mortimer, Finch & Kumka 1982).

TABLE 3: Estimates (Standardized) of the Influence of Social Origins and Adolescent Experiences on Work Value Trajectories

	Ext. Values	Sec. Values	Inf. Values	Intr. Values
Influences on intercept growth factor				
Race-Sex (black female omitted)				
White females	-.50**a	-.24**	-.17*b	-.27**
Black males	-.06	-.08	.04	-.08
White males	-.38**	-.19*	-.06	-.32**
Parents' educational attainment	-.08*	-.10*	.09*	-.04
Community of origin (small city omitted)				
Farm	-.07*	.06 ^e	-.01	.04
Rural	-.08*	.01	-.03	-.02
Suburb	-.03	-.06	.12**f	-.01
City > 50,000 people	.00	.00	.04	.03
Importance of religion	.01	.12**	.11**	.10*
Grade point average	-.01	-.08*	.11*	-.05
Academic curriculum	-.07	-.10*	.16**	-.01
High school work investments	.06	-.01	.10**	.07
Influences on linear growth factor				
Race-Sex (black female omitted)				
White females	.15	.30***	-.00	.09
Black males	.14*	.13	.11	.11
White males	.09	.11	.10	.13
Parents' educational attainment	.07	-.01	.01	.09
Community of origin (small city omitted)				
Farm	.07	-.05	-.01	-.10
Rural	.04	.02	-.04	-.09
Suburb	.01	-.03	.00	.06
City > 50,000 people	-.04	-.09	.05	-.07
Importance of religion	.04	.02	-.07	-.00
Grade point average	-.10	-.10	.06	-.06
Academic curriculum	.19**	-.11	.09	.12
High school work investments	-.05	.04	-.04	-.07
Influences on quadratic growth factor				
Race-sex (black female omitted)				
White females	-.16	-.30***	.05	-.20
Black males	-.16*	-.15	-.11	-.15
White males	-.09	-.14	-.01	-.24
Parents' educational attainment	-.04	.01	.02	-.04
Community of origin (small city omitted)				
Farm	-.05	.07	.02	.12
Rural	-.01	-.02	.05	.13
Suburb	-.01	.07	-.02	-.03
City > 50,000 people	.02	.09	-.11	.06
Importance of religion	-.04	-.05	.05	-.01
Grade point average	.09	.14*	-.07	.08
Academic curriculum	-.16**	.10	-.09	-.14
High school work investments	.04	-.07	.04	.04
χ ² (df = 67)	117.11**	105.27*	110.34**	77.72
RMSEA	.02	.02	.02	.01
(N = 2,187)				

* p < .01 ** p < .001 (two-tailed tests)

TABLE 3: Estimates of the Influence of Social Origins and Adolescent Experiences (Cont'd)

	Alt. Values	Soc. Values	Leisure Values
Influences on intercept growth factor			
Race-Sex (black female omitted)			
White females	-.16* ^a	.09 ^c	-.27*** ^d
Black males	-.11*	.03	.04
White males	-.40**	-.12	-.09
Parents' educational attainment	-.01	.00	-.01
Community of origin (small city omitted)			
Farm	.10*** ^g	-.01	-.02
Rural	-.03	-.04	.01
Suburb	.04	.02	-.04
City >50,000 people	.03	-.02	-.02
Importance of religion	.24**	.21**	.02
Grade point average	-.00	-.05	-.09*
Academic curriculum	.09*	.08	-.03
High school work investments	.05	.01	-.11**
Influences on linear growth factor			
Race-Sex (black female omitted)			
White females	.19	.15	.17
Black males	.23**	.09	.08
White males	.34**	.24*	.09
Parents' educational attainment	.08	.00	.04
Community of origin (small city omitted)			
Farm	-.15*	-.03	.02
Rural	-.00	-.03	.04
Suburb	-.08	-.06	.15*
City > 50,000 people	-.05	-.06	.13*
Importance of religion	-.01	-.12*	.05
Grade point average	-.02	-.01	.04
Academic curriculum	-.07	.01	-.02
High school work investments	-.17**	-.05	.02
Influences on quadratic growth factor			
Race-Sex (black female omitted)			
White females	-.21	-.14	-.25*
Black males	-.24**	-.10	-.17*
White males	-.35*	-.25*	-.23
Parents' educational attainment	-.05	.02	-.04
Community of origin (small city omitted)			
Farm	.18*	.08	-.01
Rural	.01	.06	-.05
Suburb	.07	.07	-.14*
City > 50,000 people	.03	.06	-.18**
Importance of religion	-.01	.12	-.04
Grade point average	-.02	-.00	-.02
Academic curriculum	.08	-.02	.03
High school work investments	.14*	.03	.00
χ^2 (df = 67)	82.74	116.56**	139.58**
RMSEA	.01	.02	.02

^a The coefficients for white females, black males, and white males are all significantly different from one another.

^b The coefficients for white females and black males are significantly different from one another.

^c The coefficients for white females and white males are significantly different from one another.

^d The coefficient for white females is significantly different from the coefficients for black males and white males.

^e The coefficient for farms is significantly different from suburbs.

^f The coefficient for suburbs is significantly different from farms and rural areas

^g The coefficient for farms is significantly different from rural areas.

The substantial changes over time in the importance attached to these job features are not likely a result of broad shifts in work values in society between the late 1970s and the early 1990s. Trends in work values for repeated samples of high school seniors across these years do not resemble the patterns observed here (see Marini et al. 1996; Schulenberg et al. 1995).⁷

The primary purpose of this study is to determine whether adolescents' work value trajectories systematically vary by social origins and early experiences. For these factors to predict work value trajectories, the trajectories themselves need to show differences across individuals. Thus far only average trajectories have been described. The estimated variance of the growth factors represents the amount of individual difference in the trajectories. Substantial variance exists in the intercept growth factor for each work value (see Table 2). In other words, the young people in this study differed substantially in the initial importance they attached to the seven types of work rewards. Substantial variance also exists in the linear and quadratic growth parameters of the work values (with the exception of intrinsic work values). Thus young people also experienced different rates of change over time in their work values. (Even those work value trajectories that were relatively flat on average show substantial individual-level movement.) The next step is to determine the extent to which this individual-level variation in trajectories can be attributed to social origins and adolescent experiences.

THE INFLUENCE OF SOCIAL ORIGINS AND ADOLESCENT EXPERIENCES ON WORK VALUE TRAJECTORIES

To examine the influence of social origins and teenage experiences on work value trajectories, I first estimated a conditional latent growth model for each work value, regressing the growth factors on the measures of social origins. I then reestimated these models, regressing the growth factors on the measures of social origins and adolescent experiences. Because the addition of the adolescent experience measures had little effect on the earlier estimates, only the findings from the later models are shown. An important implication is that the effects of social origins on work value trajectories are not mediated to any great extent by adolescent experiences prior to leaving high school. Parameter estimates for these models are shown in Table 3.

I present the results as they relate to the two objectives of the study. First, I consider how work values, as they have developed by adolescence, reflect young people's social backgrounds. Second, I consider whether social origins and adolescent experiences continue to shape work values into adulthood. Statistically the first question addresses initial levels in the work value trajectories, while the second question addresses rates of change in the trajectories.

Initial Levels

The panel members' initial expressions of work values were strongly connected to their social origins and experiences in adolescence. As expected based on theoretical models of parental influence, young people whose parents were more highly educated tended to attach less importance to extrinsic rewards and security and valued having influence more highly than their peers did. This pattern of findings is consistent with the argument that young people from higher class backgrounds are more or less assured decent compensation and job stability and therefore place greater importance on power-related job characteristics, like decision-making authority and challenge.

Beyond class differences in adolescents' work values, which are important for the intergenerational transmission of occupational attainment, I expected several other aspects of adolescents' backgrounds to shape their work values. Historically gender has been considered a fundamental dimension relevant to work orientations. The findings are consistent with this but also indicate that gender and race jointly influence work values. In fact several important gender differences noted in past research reflect differences observed only among whites.

Among whites only, young men attached greater importance to extrinsic rewards than did young women, consistent with prior understandings of gender differences in work values for adolescents of this time period. Regarding both extrinsic rewards and security, blacks as a group attached greater importance to these job features than whites. Blacks appear to value economic well-being more highly than whites, consistent with the argument that persistent economic disadvantage fosters concern with earnings and security. Black women rated these rewards as highly as did black men, possibly reflecting that they have been important financial providers for their families.

Gender differences in social values reported previously (Marini et al. 1996; Johnson 2001a) also appear to be isolated among whites. The major contrast was between white women, who placed the most importance on social rewards of any group, and white men, who placed the least importance on these rewards of any group.

In contrast, gender differences in work values were consistent across racial groups for influence, intrinsic rewards, altruistic rewards, and leisure (though not always statistically significant separately within each racial group). These gender differences paralleled the findings of earlier studies. Women assigned more importance to intrinsic and altruistic rewards than men, whereas men assigned more importance to influence and leisure than women (gender differences $p < .001$). Race also had additive effects on these dimensions of work values though, as blacks assigned greater importance than whites to all four types of rewards (race differences $p < .001$).

Taking this pattern altogether, it is evident that blacks attached greater importance than whites to all types of work rewards except social. As adolescents, blacks appeared

to be oriented toward work rewards in general. Where this racial difference occurred, black women more often than not stood out as placing the greatest importance of any group on the work rewards. Not only did black women hold value orientations traditional for women, as is the case with their valuing the intrinsic and altruistic rewards of work, they also were oriented toward economic well-being in valuing extrinsic rewards and security. Whether or not they were able to maintain these work values over the years is an important issue addressed in the next section.

Other aspects of social origins also played a substantial role in shaping initial work values. As expected, young people from farms and rural communities attached less importance to extrinsic rewards than did young people from other community types. This may reflect an overarching difference in the value of materialism among people in different types of communities. In agreement with Elder and Conger's (2000) suggestions about the unique experiences of farm families, young people from farms attached greater importance to altruistic job rewards than did young people from any other community type. They also attached more importance to security, compared to those from suburbs, perhaps indicating a greater concern about stability than is evident among other young people. Young people from suburbs, like those of more highly educated parents, stood out from all others by attaching greater importance to having influence.

Religiousness was highly predictive of adolescents' work values. Those who placed greater emphasis on religion attached greater importance to security and influence and to intrinsic, altruistic, and social rewards. The importance of religion was not associated with the value of leisure and extrinsic work rewards. So while the more religious young people differed little from their peers in terms of their instrumental orientations, they viewed the self-fulfillment and self-expression characteristics of work as more important. Also, the stability of secure employment may fit the more traditional orientations associated with greater religiosity.

Adolescent experiences, characterized by both school experiences and work investments, were also related to initial expressions of work values. As noted earlier, these experiences cannot be assumed to be causally related to the work values, so just their associations are considered here. With respect to school experiences, curriculum enrollment was more strongly connected to work values than grade point average, though both were associated with some of the work values. Young people who had better grades in school valued having influence more highly and security and leisure less highly than did their peers. Participation in an academic curriculum was associated with attributing greater importance to influence and to altruistic rewards and lower importance to security. Those who were more successful in school seemingly had less desire to avoid hard work on the job and were more interested in the achievement and power-related rewards included in the influence work value. A more advantaged school experience also appears to be associated with less concern over job security.

In contrast to school experiences, work hours in the senior year of high school showed less relation to work values. Those who worked more hours during their senior year of high school attached greater importance to influence and less importance to leisure work values than did their peers with less work experience. Again these differences may reflect selection effects. Those who worked more hours in high school had already demonstrated a commitment to spending time at work, a key aspect of the leisure value as measured here. The differences also might indicate, however, that young people with more work experience were feeling ready for more decision-making authority and challenge at work.

Rates of Change

Thus far it is apparent that adolescents' work values reflect their social backgrounds and experiences. But have key indicators of social origins, like class, gender, and race, exercised their full influence on work values by this stage, or do they continue to affect work values throughout the young adult years? Do the work values of more advantaged adolescents show greater stability? Do certain experiences in adolescence help young people maintain their work values as they move through the transition to adulthood?

With respect to the effects of social class, the findings indicate no additional influences on work values over the years studied. The absence of additional effects implies that earlier class differences in work values were maintained over time, until the early thirties. (The growth curves of young people with parents of differing educational attainments began at different levels, but remained essentially parallel to one another over time).

In contrast, gender and race continued to shape work values throughout the young adult years. Gender-race differences in rates of change in work values were primarily concentrated among the three work value types that showed overall downward-shaped trajectories. For these values, extrinsic, altruistic, and social, black women showed the steepest decline of any group. Black females' downward trend in the trajectory of extrinsic values was significantly different from that of black males. Likewise their downward trajectory of social values was significantly different from that of white males. Their downward trajectory of altruistic values was significantly different from both white and black males.

Compared to white women, black women showed a steeper downward trend in their security work values initially, but the nature of this difference is less straightforward. None of the groups experienced much change on this dimension, and while black women's trajectory was slightly concave-shaped with little overall change, white women's trajectory was slightly convex-shaped and showed some upward movement. The somewhat increasing importance of security to white women over time also differed significantly from white men's stable interest in security. Finally, black women differed from the other groups in that they became

more concerned with leisure as they got older. No differences by race-gender group showed in the rates of change in influence and intrinsic work values.⁸

Adolescent experiences in school and work played only small roles in the rate of change in work values during the transition to adulthood. Those from an academic curriculum showed a slower rate of change downward in extrinsic job values. Young people *not* from an academic curriculum initially placed greater value on extrinsic rewards than those in an academic curriculum and experienced a greater average shift downward in the importance of extrinsic rewards with age. Consequently the two groups converged by the end of the study period. Those who invested more in paid employment as teenagers also showed a greater downward shift in their altruistic work values over time. They may choose occupations with fewer altruistic rewards.

These findings offer little support for the idea that academic experiences and hours of employment during adolescence equip young people with information and skills that would enable them to establish more stable work values. Curriculum and work investments bear little relationship to rates of change in work values. In other words, students in both curriculum tracks, and with varying amounts of work experience, show as much (and as little) change in work values.

In sum, the findings indicate that initial levels of work values are related to social origins and adolescent experiences in important and largely predictable ways. Moreover, the rates of change in values during young adulthood differ substantially across racial and gender groups. Beyond race and gender, however, the evidence indicates that change in work values during young adulthood is not a function of parental education and the adolescent experiences examined here.

Discussion

In their reviews of the sociological research on the transition to adulthood nearly fifteen years apart, Hogan and Astone (1986) and Shanahan (2000) concluded that the intentionality of transition behavior needed more study. While for many years such efforts were impeded by a lack of longitudinal data on preferences and expectations (Hogan & Astone 1986), the detailed panel data from Monitoring the Future along with new techniques for studying individual differences in change have afforded this exceptional opportunity to examine what young people want from their work lives as they move through this important stage in the life course.

For adolescents as a group, several types of work rewards important to them just after they left high school continued to be as important to them as they entered their thirties. Yet along three dimensions, adolescents (on average) substantially adjusted downward their assessments of how important these job rewards were to them as they got older. Extrinsic, altruistic, and social values showed an overall downward trajectory over time during the transition to adulthood. Given the tendency for adolescents to rate many job rewards highly, exceeding what will be

available to them in the labor market, a reduction in the average importance ratings with age would seem to reflect growing realism in related expectations.

The picture that emerges from these findings is one of coming to terms with limited opportunities. This contrasts with Arnett's (2000) characterization of "emerging adulthood" in the U.S. as a time of "exploration," "experimentation," and "possibilities." Arnett's perspective, though grounded in the changing demographic behaviors of young people, is a quite optimistic view of young people's experience. Whether this period of the life course is a time of exploration or floundering may depend on the individual and the educational and occupational opportunities available. Black women's larger work value adjustments are an important case in point, because their pattern probably reflects greater experienced difficulty in turning their dreams into reality.

These average patterns of work value change provide insight into how unmet expectations are dealt with. Csikszentmihalyi and Schneider (2000) have expressed concern over how an ambitious generation of young people will respond when their expectations are not realized. They raise the question of whether or not young people will experience widespread disillusionment and frustration. Yet other research indicates that young people fare quite well psychologically during the transition to adulthood. Analysis of the Monitoring the Future data indicates improvement in well-being in the years following high school along several dimensions (Schulenberg et al. 1999). A sense of personal control also improves during this period of the life course (Lewis, Ross & Mirowsky 1999). So how do young people take jobs that offer less than they desired without widespread psychological repercussions? The answer may lie in the ability to change underlying values. Reassessing the desirability of job rewards that are less accessible may enable psychological health. If revised values more closely match attainments, workers will be more satisfied with their jobs.

So why did some values change on average more than others? One possibility is that, for some types of work rewards, the gap between what is initially valued in adolescence and what is actually available in the labor market is larger on average than it is for other work rewards. By this argument extrinsic, altruistic, and social values change more dramatically because adolescents in a sense "overvalue" extrinsic, altruistic, and social rewards relative to the likelihood that these values can be fulfilled, and thus need to make larger adjustments. This kind of disjuncture could be created by lack of knowledge about the availability of a particular reward and one's chances of obtaining it and/or by the absolute levels of the reward actually available in the labor market. If this gap varies across many types of ambitions, it would indicate that concerns about "overambitious" youth are expressed in too general a way. Along some dimensions, including several work dimensions examined here, adolescents may not be overly ambitious.

While these findings speak to the experiences of adolescents as a group, one of this study's strengths lies in the examination of how individual adolescent's

trajectories are linked to their social backgrounds and experiences. The work values adolescents expressed initially, in the first survey following high school, reflected a broad range of social and cultural influences. Consistent with the idea that parents' socioeconomic status and children's later attainments are linked through the children's achievement orientations, class differences in work values were compatible with adolescents' likely future positions in the occupational structure. Adolescents whose parents were more highly educated placed less emphasis on economic well-being (extrinsic rewards and security) and valued having influence more than did those whose parents had less education.

By considering gender and race in tandem and by considering a wide range of work values, this study clarifies earlier findings regarding gender differences in work values and brings to light important racial differences in work values as well. Past studies have generally found that women attach greater importance to altruistic, social, and intrinsic job rewards. Here we see that this gender difference is only consistent across racial groups for altruistic and intrinsic job rewards. Young women of both races attached greater importance to altruistic rewards than young men. This parallels gender differences in values outside the work domain as well, as young women express greater concern and responsibility for the well-being of others than do young men (Beutel & Marini 1995). White and black women together placed more importance on intrinsic rewards than did men as well. With respect to social job rewards, the expected gender difference occurred only among whites. The gender difference among blacks, though nonsignificant, was in the opposite direction.

Previous studies generally found that men assigned greater importance to influence, leisure, and (until recently) extrinsic rewards. In this study gender differences in influence and leisure values were consistent with these earlier findings, although within racial groups the difference only reached statistical significance for whites. Yet black women clearly attached as much importance to extrinsic rewards as did black men. That black women, compared to white women, cared more about pay, prestige, and respect and were less concerned with the social side of work is likely a reflection of their more prevalent roles as economic providers for their families.

Racial differences across gender groups were also important. Blacks assigned greater importance than whites to all types of work rewards except social rewards. In contrast to the findings of earlier studies on adult workers, young blacks did not value intrinsic rewards any less than young whites. It is impossible in the current study to determine whether this is a function of age or historical change. It is also possible that, because of the forced ranking procedure used in earlier studies, racial differences in intrinsic work values were merely a result of the method. One notable pattern in the findings is that, when blacks valued a type of reward more highly than whites did, more often than not black women stood out as the group

attaching the greatest importance to the reward. Black women attached the most importance of any group to extrinsic rewards, security, and altruistic and intrinsic rewards. Other analyses of the Monitoring the Future data indicate that, as seniors in high school, black females also hold the highest educational expectations (Morgan 1998).

Like adolescents from privileged social-class backgrounds, those with more advantaged academic experiences placed less emphasis on job stability and valued having influence more than their peers did. Those who worked longer hours in high school were also more interested in influence, and they along with those who had done well in school attached less importance to leisure — working at an easy pace and having time off. As expected, young people from farms and rural areas were less interested in extrinsic rewards, and those from farms in particular placed greater importance on helping others through their work. Religion promoted valuing a variety of work rewards, indicating that work is seen as a personally meaningful experience, but did not encourage any extra emphasis on extrinsic rewards or leisure. Cultural influences on values are evident in these community type and religiosity patterns. Importantly, academic and work investments prior to leaving high school did not mediate to any great extent the influence of social origins on work values.

Of particular interest in this study was whether key dimensions of social origins, like class, gender, and race, exercised their full influence on work values by the time adolescents left high school or continued to influence work values throughout the young adult years. These aspects of social origin not only shape adolescents' views of the future, but also structure the available social and economic resources for adolescents to realize their dreams. Moreover, certain experiences during adolescence could equip young people with information and skills that would enable them to establish more stable work values.

With respect to social class, the findings indicated no further influence beyond those differences apparent at the initial point of observation. Although parents' occupations could not be examined with this data, the features of parents' jobs might be more closely tied to young people's work value trajectories than parents' educational attainments, so additional study is warranted.

In contrast, gender and race strongly differentiated work value trajectories across the young adult years. The distinct experience of black women is especially striking. Black women showed the steepest decline in their extrinsic, altruistic, and social value trajectories, the three that showed downward adjustments for the panel as a whole. Black women's work value trajectories may reflect a combination of factors unique to them, including their orientation toward work and family and their disadvantage in the labor market due to both sex and race discrimination. Young black girls more often grow up with an understanding that they will assume the dual roles of paid worker and mother. A number of factors contribute to black women's need and desire for employment (Smith 1981), including basic economic

need or perceptions of future economic need. Black girls have also had greater exposure than white girls to employed female role models. Data from the 1980 census, a particularly relevant time for the cohort examined here, indicates that women headed about half of black households and black women participated in the labor force at higher rates (as they have historically) than white women (Smith & Tienda 1988). Black women and other women of color faced and still face many disadvantages in the labor market, however, often having lower educational attainment, experiencing higher unemployment, and reaching lower levels of occupational attainment (Smith & Tienda 1988). Despite exposure to working mothers, black females may have low levels of occupational information (Smith 1981). The fact that black women have been concentrated disproportionately as service workers and a limited number of other occupations (Smith & Tienda 1988) may help explain why black girls desire more than their mothers have but have little information upon which to base their ambitions.

Finally, while adolescents in the academic track in high school later experienced a less dramatic downward shift in their extrinsic values compared to other students, the findings otherwise offered little to support the argument that academic experiences and work investments during high school would shape the course of work values during the young adult years.

A full understanding of changes in work values during young adulthood requires a variety of analytical approaches and requires investigation of a number of processes. This study provides rich detail on the average changes in work values that occur during the transition to adulthood, and provides a first step in understanding work value trajectories by considering the extent to which they are differentiated by key statuses and experiences prior to entry into adulthood. Future research ought to examine how changes in values during young adulthood are related to young people's *ongoing* experiences. Changes in work values that occur during the early work career may be related to the educational pathways that young people take as well as the kinds of jobs they hold. An important next step, currently underway with data from the Monitoring the Future panel, is to examine the influence of postsecondary education and time-varying work experiences on work value trajectories.

The basic status-attainment model that developed out of research in the late 1960s and the 1970s holds in part that social psychological factors in adolescence mediate the effects of parental socioeconomic status on educational and occupational attainment. Based on criticism that status-attainment researchers ignored important structural factors in the status-attainment process, research since that time has focused on institutional processes in schools and labor markets that influence status attainment. Yet perhaps in addition to this, we need to return to the social psychological aspects of status attainment and the interplay between structural factors and social psychology (see Mortimer 1996). Because various social psychological aspects of attainment, like occupational aspirations and work values, are subject to change, current models of attainment are entirely too simplistic.

Moreover, social background continues to operate on social psychological factors into the young adult years. This may be the result of a delayed effect, with these factors not becoming salient until adolescents face real choices, or they may be indirect, through the differing pathways young people follow and the opportunities and constraints they experience during the transition to adulthood.

This study demonstrates the utility of a trajectory approach to studying individual changes in social psychological orientations and other phenomena of sociological interest. Orientations at any given time are part of a larger trajectory reflecting continuity and change over the years. Health, well-being, income, and many other aspects of life can be conceptualized in this way. By considering trajectories as a whole, patterns over time, as opposed to static levels, can be examined and related to early or ongoing life experiences and social contexts. Such an approach is highly consistent with life course models emphasizing the implications of earlier experiences and states for later ones. Moreover, as demonstrated in this study, the timing of various social influences on orientations can be considered using this approach. No matter whether the specific subject of inquiry is work values or marital happiness, trajectories help conceptually in capturing the nature of lives as evolving over time within social contexts (Elder 1998).

APPENDIX: Fit Comparisons of the Unconditional Latent Growth Models for Work Values

	Linear Growth Model				Quadratic Growth Model			
	χ^2 (df = 23)	RMSEA	TLI	CFI	χ^2 (df = 19)	RMSEA	TLI	CFI
Extrinsic values	182.77**	.06	.98	.97	46.19**	.03	1.00	1.00
Security values	167.27**	.05	.97	.97	58.33**	.03	.99	.99
Influence values	188.12**	.06	.97	.97	56.65**	.03	.99	.99
Intrinsic values	79.40**	.03	.99	.99	32.00	.02	1.00	1.00
Altruistic values	101.14**	.04	.99	.99	31.65	.02	1.00	1.00
Social values	139.62**	.05	.98	.98	63.79**	.03	.99	.99
Leisure values	149.52**	.05	.97	.97	78.36**	.04	.99	.99
(N = 2,187 for each)								
* p < .01 ** p < .001								

Note: To determine the functional form of the trajectories, I first estimated a linear latent growth model for each work value. I then reestimated the models with the addition of a quadratic growth parameter. A traditional χ^2 test showed dramatic improvement in moving to the quadratic form in each case (see Table A1). Even in the quadratic form, however, the χ^2 test statistic was significant in five of the seven models, indicating a poor fit. Because this fit statistic is sensitive to sample size, I also evaluated the models with the RMSEA, CFI, and TLI fit indices (for additional details on these indices, see Bollen [1989] or Maruyama [1998]). RMSEA is based on the population discrepancy function and compensates for model complexity by dividing it by the number of degrees of freedom for testing the model. General guidelines suggest that RMSEA not exceed 0.05. CFI and TLI compare the discrepancy and degrees of freedom for the model being tested to the discrepancy and degrees of freedom for a “baseline” independence model. The basic idea behind both is that models are viewed along a continuum from worst to best possible fit. CFI and TLI values close to 1 indicate a very good fit. By all three additional criteria, a clear pattern of improvement in model fit emerges with the quadratic-form model. In the quadratic-form models, TLI and CFI are at or close to 1 and RMSEA is less than 0.05 in every case. Finally, I compared both the linear and quadratic growth models to a model in which the slope coefficients were freely estimated (with the exception of the first two time points, necessary to set the scale). In each case the quadratic growth model demonstrated superior fit.

Notes

1. As is the case for adults, the characteristics of their jobs influence young people's work values, and as adolescents move through high school, their work values also increasingly affect the work they do (Mortimer et al. 1996). Teenage work experiences and work values are therefore likely to be reciprocally related. The purpose of this study is not to disentangle these potentially reciprocal effects but rather to assess whether or not high school work investments influence the rate of change in work values after high school.
2. About 15% of adolescents dropped out of high school during this period. See the methodological discussion in Johnston, O'Malley, and Bachman (1998).
3. Work values from the senior-year survey could not be included in this analysis because the latent growth model technique requires that the duration between any two measurements be equal for all respondents. Only one year passed between the senior year and the first follow-up survey for half the sample while for the remaining half two years passed. All subsequent intervals were of the same length of time for all respondents. The issue is not that all the intervals need to be of the same length. Rather, for any given interval — no matter the length, the duration must be equal across all respondents.
4. No statistically significant differences across the five cohorts emerged in average initial levels or in rates of change in work values.
5. It is possible that the community types in which respondents were reared were not the same as the community types in which they currently lived in the twelfth grade. However, the former measure is expected to capture the socialization experience of the adolescent.
6. This Mplus procedure assumes that missing data are missing at random (MAR), that is, given the values on observed variables, the values missing on other variables are missing at random (i.e., respondents and nonrespondents with the same characteristics on observed variables do not differ systematically on other variables). Whereas the models presented were based on seven follow-ups, I also ran models based on fewer (six and then five) follow-ups, thus with fewer missing data, to test the sensitivity of the analysis to attrition across waves. The parameter estimates were similar across these models.
7. Extrinsic rewards, for example, became more important to high school seniors over this period, and the importance of social rewards did not change. Although altruistic rewards became somewhat less important during the 1980s, this trend reversed in the 1990s. For additional information on trends in work values, see Schulenberg et al. (1995) and Marini et al. (1996).
8. Although community of origin and religiosity were not expected to influence the rate of change in work values, some significant differences emerged. Young people from farms experienced a steeper downward trend in their altruistic work values than did those from small cities. Though the coefficients defining the trajectories for leisure work values for young people in suburbs and large cities were significant, the differences were quite small and do not represent any meaningful difference in the value of leisure with age for these groups. Those who placed greater importance on religion in their lives experienced a greater downward trend in the importance they attached to the social rewards of working with age. As a result by the end of the period the importance of religion was no longer associated with the value given to the social rewards of working.

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The Short- and Long-Term Effects of U.S. Migration Experience on Mexican Women's Fertility*

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Abstract

Using retrospective fertility and migration histories from a binational study of Mexico-U.S. migration, we test for the presence of separation, assimilation, adaptation, diffusion, and selectivity effects of migration on annual birth probabilities and completed fertility. Our results reveal that spousal separation due to temporary migration reduces birth probabilities in the short term but does not reduce marital fertility in the long term. However, when women migrate to the U.S. either as temporary migrants or as long-term settled migrants, their experiences lead to lower birth probabilities while in the U.S. as well as to fewer total births. By contrast, U.S. migration experience among men who return to Mexico is associated with higher marital fertility in Mexico, suggesting that temporary migrants are selected for higher fertility.

Most studies on the relationship between migration and fertility focus on long-term migration from high- to low-fertility areas and are motivated by concerns about the impact of in-migration on aggregate fertility and population growth in destination areas (Goldstein 1973; Lee & Farber 1985; Zárate 1967). The impact of temporary migration on fertility in origin areas has received little attention even though temporary migrants outnumber long-term migrants in many regions of the world (Appleyard 1988; Kritz, Lim & Zlotnik 1992; Lim 1993). The potential role of temporary migration in lowering fertility stems from both the disruptive effects of long or repeated episodes of spousal separation and the possibility that

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migrants return to their communities of origin with newly adopted attitudes and behaviors that are conducive to lower fertility. Mexican migration to the U.S. offers an instructive case for studying the relationship between migration and fertility. The two countries provide a sharp contrast in levels of economic development, total fertility, and cultural models of marital roles and role relations. Temporary migration to the U.S. also has a long history and is a vital component of individual and household economic strategies in many Mexican communities. Our goals in this article are threefold: (1) to examine the demographic and social mechanisms by which migration affects fertility, (2) to determine whether the effect on fertility of men and women's cumulative experience in the U.S. is the same, and (3) to determine whether the impact of migration on fertility operates differently for migrants who return to Mexico than for migrants who remain in the U.S. We examine these issues using retrospective life history data collected by the Mexican Migration Project for currently married women and their husbands in 43 Mexican communities and in selected U.S. destination areas.¹ We use discrete-time multilevel hazard models to examine the effects of migration on annual birth probabilities and Poisson multilevel regression models to examine completed fertility.

Migration from Mexico to the U.S. constitutes one of the largest migration systems in the world. As of the mid-1990s the Mexican-born population in the U.S. was estimated at between 7 and 7.3 million and was growing by approximately 290,000 persons per year (Bean et al. 1998; PEFEUM 1995). Long-term or settled migrants represent only a fraction of the total number of Mexicans who have ever worked or lived in the U.S. Using data collected in migrant origin and destination areas along with apprehension statistics from the Immigration and Naturalization Service, Massey and Singer (1995) estimate that in the late 1980s about 2.5 to 3 million undocumented Mexicans entered the U.S. each year and that over the period from 1965 to 1990, 36.5 million border crossings were made into the U.S. by undocumented Mexicans. Many of these trips were made by repeat migrants, and the vast majority returned to Mexico. Given the volume of this migration, changes in the fertility of settled and return migrants are of clear consequence for aggregate fertility in the U.S. and in Mexico.

An examination of migration and fertility together provides valuable insights into each of the two demographic phenomena. Many of the social and economic processes that are thought to affect fertility, such as cultural diffusion and assimilation, economic development and income growth, and the transformation of family roles and role relations, have also been identified as outcomes of labor migration. In the case of temporary migration from Mexico to the U.S., individual migrants experience these social and economic processes at various levels of intensity, depending on cumulative experience in the U.S., while the community context of family formation and maintenance in Mexico remains the same for migrants and nonmigrants alike. This heterogeneity in extracommunal experi-

ences, and the relative homogeneity of the community context, provides an opportune setting for analyzing the responsiveness of fertility behavior to various aspects of social and economic change. In addition, by evaluating the impact of migration on fertility, we gain insights into how migration affects people's lives. If migration between culturally and economically distinct locations is a transformative experience, as some have argued, then alterations in fertility behavior are a good measure of the extent to which a change in values and aspirations actually occurs.

A number of studies using U.S. census data find a negative relationship between fertility and time spent in the U.S. among Mexican-born women (Bean et al. 1984; Stephen 1989). These studies attribute this relationship to the gradual assimilation of low-fertility norms and to the influence of economic opportunities and constraints in the U.S. that discourage large families. Whether or not immigrants are selected for unmeasured characteristics that are associated with lower fertility is difficult to determine without information on return migrants and nonmigrants from the same migrant communities of origin.²

The nature and strength of the relationship between fertility in Mexico and temporary migration to the U.S. are largely unknown. Massey and Mullan (1984) used data on own children and U.S. migration experience collected in a rural Mexican community to look at the impact of spousal separation on fertility. Based on cross-sectional estimates of age-specific fertility rates, they concluded that temporary migration to the U.S. was associated with a 17% to 50% reduction in two-year birth probabilities, depending on factors such as age of mother, length of separation, and legal status in the U.S. Considering the contemporaneous trends of increased migration to the U.S. and fertility decline in Mexico during the 1970s, Massey and Mullan speculated that temporary migration may have been a factor in the decline of aggregate fertility. The cross-sectional nature of their data, however, prevented them from determining whether couples were able to compensate for lost reproductive time by spacing births more closely during periods of nonmigration or by delaying the age at which fertility is stopped. In addition, they were unable to separate the effects of cumulative experience from those of immediate separation.

Our use of life history data as well as the binational nature of the sample allows us to overcome the limitations inherent in cross-sectional and U.S.-based data sources. We are able to examine the effects of migration on fertility in the short and long term, and we can compare the effects of migration experience for settled and return migrants. In addition, because the Mexico sample includes migrants and nonmigrants alike, we are able to test for diffusion effects by examining the relationship between individual-level fertility and the prevalence of male and female migration in the community.

Theory

The separation, assimilation, adaptation, and selectivity hypotheses appear in most analyses of the relationship between migration and fertility. In addition to these four hypotheses, we consider the effects of diffusion. Return migrants may facilitate fertility decline in their communities of origin through the diffusion of low-fertility norms and values acquired while working and living in the U.S. These five hypotheses are not mutually exclusive and may work in conjunction with one another, which highlights the importance of considering them jointly in the analysis of migration and fertility.

SEPARATION

Temporary labor migration often involves the separation of couples for extended periods of time. In the case of Mexico–U.S. migration, the most common pattern is for the husband to migrate while the wife remains in Mexico. If migration is permanent, the husband frequently migrates alone and is later joined by his wife and children. Menken (1979) and others have demonstrated mathematically the potential of recurrent separations to increase the length of birth intervals and thereby reduce completed fertility among noncontracepting couples (Bongaarts & Potter 1979). The cumulative effects of separation will be low or absent in populations where fertility is controlled and couples are together long enough to make up for lost reproductive time. Even in high-fertility populations, separations will have a limited impact on fertility if trips overlap nonfecund periods or if during the period following return the probability of a conception rises above predeparture levels due to increased coital frequency.

ASSIMILATION/CULTURAL ADOPTION

The assimilation hypothesis assumes that fertility preferences are strongly influenced by norms and values concerning ideal family size learned during childhood and reinforced during early adulthood. When moving to culturally distinct destinations, migrants slowly adopt the norms and values prevalent in a destination, including those governing family formation and reproduction. The process of assimilation is assumed to be gradual and linear and may take several generations to complete. Assimilation is weakest among the first generation, particularly among immigrants who arrive in the U.S. as adults. Nevertheless, women with more experience in the U.S. are expected to have lower fertility than similarly aged women with less experience.

Temporary migrants, like settled migrants, are also exposed to U.S. values, norms, and consumption patterns. However, they are not under the same pressure as settled migrants, nor do they have the same motivation to assimilate into U.S. society. Nevertheless, through the process of living and working in the U.S.,

temporary migrants become aware of alternative models of gender roles and family relationships, which they may accept or reject in a piecemeal fashion. The adoption of destination norms and values will therefore be less complete and more selective among temporary migrants compared to settled migrants, due to the more limited nature of their exposure to and interaction with U.S. society, as well as their clear intention to return to Mexico. This pattern of selective cultural adoption found among temporary migrants is consistent with the conception of migration as a transformative experience and of migrants as agents of social and economic change found in the literature on urban–rural return migration in developing countries (Goldscheider 1983, 1987). In addition to being exposed to new ideas and attitudes, the experience of traveling to a distant location and earning higher wages instills in migrants a greater sense of control over their lives, which may translate into greater efforts to control the timing and number of births (Massey & Mullan 1984).

The influence of U.S. migration experience on marital fertility in Mexico will likely depend on whether it is the husband or the wife who has been to the U.S. Research on the gender and family dynamics of Mexico–U.S. migration suggests that men and women are affected in different ways by their experiences in the U.S. (Espinosa 1998; Hondagneu-Sotelo 1994). These differences often surface when the issue of return to Mexico arises or when couples are reunited after a husband's long absence. The decision to return to Mexico is often a source of family conflict. For women, return to Mexico, especially to a rural community, may involve a loss of autonomy and a return to more traditional patterns of gender relations. Ethnographic studies provide numerous accounts of efforts by migrant husbands to reestablish patriarchal family relations in Mexico, even after long periods in the U.S. (Espinosa 1998; Kanaiaupuni 1995; Pérez-Itriago & Guendelman 1989). These observations suggest that women's experience in the U.S. will be more important than men's for reducing fertility and that this gender difference will be greater among return migrants in Mexico than among settled migrants in the U.S.

DIFFUSION

The assimilation/cultural adoption hypothesis is consistent with cultural theories of fertility that stress the role of values and ideational systems in shaping fertility practices and desired family size. The cultural approach to fertility attempts to incorporate the influence of the sociocultural context of fertility behavior and emphasizes factors that are important in shaping and transmitting values (Caldwell 1982; Cleland & Wilson 1987; Freedman 1979; Knodel 1977; Lesthaeghe & Surkyn 1988; Lesthaeghe & Wilson 1986). Within the cultural framework, temporary migration is a potent mechanism for facilitating fertility decline. When migrants return to their communities of origin, they bring with them the new ideas and innovative behaviors that they acquired in destination areas. In communities where migration has a long history and is widespread, the ideas and behaviors brought

back by return and visiting migrants become commonplace and gradually set the standards for migrants and nonmigrants alike. The role of migrant-based diffusion in fertility decline will depend on the prevalence and gender composition of migration in the community. If a wife's migration experience is more important for marital fertility than a husband's, then we should expect the prevalence of women's migration to exert a stronger influence on fertility than the prevalence of men's migration. This expectation is consistent with the emphasis on women's social networks that is found in research on the role of diffusion in contraceptive adoption and fertility decline (Rutenberg & Watkins 1997; Watkins & Danzi 1995).

ADAPTATION

Migration involves a change in economic as well as cultural environments. Whereas the assimilation hypothesis refers to the adoption of destination fertility norms and values, the adaptation hypothesis refers to an adjustment in fertility behavior that occurs in response to the economic opportunities and constraints present in a destination. In moving to more economically developed areas, migrants encounter a relative increase in family maintenance costs, educational opportunities, and male and female wage rates. This change in economic environments reduces for parents the value of high fertility and increases the real and opportunity costs of each additional child. Because the economic conditions present in a new environment are felt from the time of arrival, adaptation is expected to influence migrant fertility within a short period of time. The adaptation hypothesis is derived from economic models of fertility that view household income and the relative costs of children as primary considerations in decisions about family size (Becker 1981; Willis 1974). Separating out the effects of assimilation from those of adaptation among settled migrants is very difficult because both processes occur simultaneously. For this reason many studies combine the two hypotheses under the label of assimilation or adaptation. Theoretical differences between the assimilation and adaptation hypotheses with respect to the underlying processes of fertility decision making have important implications for understanding the possible effects of temporary migration on fertility. The adaptation hypothesis allows for the possibility that couples temporarily reduce their fertility in a destination in order to maximize the returns from migration, without changing their overall fertility preferences or ideals. Upon returning to their place of origin, migrant couples may accelerate reproduction to arrive at a desired family size. Such a pattern cannot be explained by the assimilation/cultural adoption hypothesis, since it emphasizes long-term changes in fertility preferences and behavior.

SELECTIVITY

The separation, assimilation, and adaptation hypotheses cover changes in fertility behavior that occur in response to various aspects of the migration process. The selectivity hypothesis refers to the tendency for migrants to be selected for individual characteristics that are associated with lower- or higher-than-average fertility. Selectivity may occur on the basis of observed characteristics such as education and occupation in place of origin or unobserved characteristics such as mobility aspirations or openness to innovation. We address the issue of selectivity in this article by (1) including control variables in our models for observed characteristics that are associated with both migration and fertility, (2) comparing the effects of migration for return and settled migrants, and (3) comparing the fertility of return and settled migrants to nonmigrants in the place of origin net of other effects.

Data

To test the different hypothesized effects of migration on fertility, we use retrospective life history data collected by the Mexican Migration Project in 43 Mexican communities and in selected U.S. settlement areas. The communities are located in the states of Guanajuato, Jalisco, Michoacán, Zacatecas, Nayarit, Colima, San Luis Potosí, and Guerrero. Historically, the first four of these states have together supplied the majority of migrants to the U.S. More recently, San Luis Potosí and Guerrero have emerged as major migrant-sending states. The communities were purposively selected to represent a range of sizes, economic bases, and migration levels. They encompass villages and secondary towns, market towns, cities, and metropolitan areas. In most communities, the sample consists of 200 households selected through simple random sampling, although samples tended to be smaller in the less populated places. Sampling frames were constructed by conducting a census of all dwellings in the community or of specific working-class neighborhoods in the case of large urban areas. The Mexican samples were supplemented with nonrandom samples of out-migrant households located in the U.S. Interviewing in the U.S. was concentrated in the areas where migrants from each community tended to go. Snowball sampling methods were used to identify and locate settled migrants. In most cases the U.S. samples consisted of between 10 and 20 households. Data for the 43 communities were collected between 1987 and 1996.

The study collected basic demographic and migration data for all household and family members and life histories for the household head. We used information on union formation, the timing of all births, and the husband's migration history to construct a yearly couple history that begins with the year of union formation and ends with the year of the survey or when the wife reached age 49. We treat

consensual unions as marriages. Because the survey did not collect information on the former spouse or partner of separated and divorced women, our analysis is restricted to currently married women. The percentage of ever-married women who are divorced or separated is low in Mexico. Only 2.5% of the ever-married women age 15–49 recorded in the household registers were divorced or separated at the time of the survey. In the 1990 Mexican census, 4.5% of ever-married women age 15–49 were divorced or separated (INEGI 1992). While migration may increase the risk of union dissolution and thus lead to potentially lower completed fertility, this mechanism will not have any sizable impact on aggregate fertility due to the relatively low overall prevalence of divorce and separation.

In 20 of the 43 communities, complete migration histories were collected for the wife of the household head. In the other communities, information was collected on the timing and duration of the first and last U.S. trip and the total number of trips. In the communities where wives' migration histories were not collected, we had to impute the timing and duration of intervening trips for women who made more than two trips.³ These women accounted for less than 1% of the cases in the pooled Mexico-U.S. sample. Our analysis is based on 4,993 married couples interviewed in Mexico and 422 couples interviewed in the U.S. We use sample weights in our analyses so that the couples in the Mexico and U.S. samples reflect their relative contribution to the binational sample (Massey & Espinosa 1997).

Table 1 presents selected characteristics of the communities in the samples. The figures reported in the table are based on the entire data set (i.e., 8,222 households rather than the 5,415 households included in our analytic sample). We grouped the communities according to the prevalence of U.S. migration (proportion of male household heads who have ever worked or lived in the U.S.) and community type to show the diversity of places included in the sample. Within each prevalence level a wide range of community types are represented, although villages predominate among communities with a high prevalence of U.S. migration and metro areas predominate among communities with a low prevalence of migration. Mean current levels of male migration in the communities, defined as migration during the three years preceding the survey, range from a low of 0–2% to a high of 26%. Of special interest for this article are women's migration levels, which are substantially lower than those of men. Even in the high-prevalence communities, where over 50% of men have U.S. migration experience, the average proportion of women who have ever worked or lived in the U.S. ranges between 13% and 16%.

The assimilation/cultural adoption hypothesis suggests that exposure to low-fertility norms and values in the U.S. will in the long run reduce migrant fertility preferences and behavior. To test this hypothesis, we use information from the survey on the duration of U.S. trips as a proxy measure of exposure. A number of studies of Mexican American and Mexican immigrant fertility in the U.S. examine the impact of ethnic integration on fertility patterns (Abma & Krivo 1991; Fischer & Marcum 1984; Sorenson 1988; Swicegood et al. 1988). Many of these studies view

TABLE 1: Characteristics of Mexican Communities Sampled, Mexican Migration Project

Type of Community	Number of Mexican Communities Sampled	Number of Households Sampled		Mean Community Values			
				Proportion with U.S. Migration Experience ^a		Proportion Active U.S. Migrants ^b	
		Mexico	U.S.	Men	Women	Men	Women
High prevalence of U.S. migration ^c							
Cities	4	801	85	.562	.154	.097	.025
Towns	4	966	67	.677	.128	.195	.029
Villages	8	1,040	63	.733	.163	.262	.061
Medium prevalence of U.S. migration ^d							
Metropolitan areas	2	400	33	.286	.067	.059	.028
Cities	6	1,200	113	.372	.087	.080	.021
Towns	7	997	117	.376	.052	.077	.007
Villages	2	200	0	.479	.100	.227	.044
Low prevalence of U.S. migration ^e							
Metropolitan areas	5	1,039	55	.138	.034	.024	.011
Cities	2	300	32	.223	.085	.049	.005
Towns	1	94	0	.066	.022	.000	.000
Villages	2	250	17	.199	.031	.019	.000
Total sample size	43	7,640	582				

Source: PERSFILE and COMYEAR, Mexican Migration Project

^a Proportion of household heads and spouses of household heads at time of survey who had ever migrated to the U.S.

^b Proportion of household heads and spouses of household heads who had migrated to the U.S. during the three years preceding the survey.

^c More than 50% of male household heads in the community have U.S. migration experience.

^d 25% to 50% of male household heads in the community have U.S. migration experience.

^e Less than 25% of male household heads in the community have U.S. migration experience.

the normative context of social interaction as having a powerful influence on individual fertility. Language usage and the ethnicity of friends are common measures of immigrant integration and thus exposure to host society norms (Fischer & Marcum 1984; Lopez & Sabagh 1978). The possession of English-language skills, for example, facilitates the transmission of U.S. values as presented in the mass media and opens up wider opportunities for social interaction with English-speaking natives. In the absence of detailed measures of social interaction

and integration, studies of immigrant assimilation or adaptation routinely use duration in the U.S. as a measure of exposure to the host society and culture. In the case of temporary migrants, the question immediately arises whether cumulative experience is a good measure of exposure given the typically more limited nature of contact that temporary migrants have with the host society.

To address this issue, we look at the relationship between cumulative months of migration experience and four characteristics of men's last U.S. trip that are positively associated with exposure to U.S. society: (1) possession of legal documents, (2) migration with wife and children, (3) friendships with non-Mexicans, and (4) English-language ability. Unfortunately, this information was only collected for household heads.

Table 2 presents information on the characteristics of last U.S. trip for the husbands of women included in our analytic sample. Most trips made by temporary and return migrants are of relatively short duration. The median duration of the last trip ranges from 6 to 12 months, depending on the amount of total experience. Highly experienced migrants tend to accumulate their experience across multiple trips. For example, 50% of men with more than 5 years of cumulative experience made six or more U.S. trips.

Undocumented migration status is one of the major barriers to social interaction and integration in the host society. Having legal documentation removes the threat and fear of apprehension and deportation and thus facilitates participation in activities beyond the protective confines of the immigrant community. The percentage of migrant husbands who entered the U.S. legally on their last trip increases with experience. Slightly more than one-half of men with more than 5 years of experience entered the U.S. legally compared to about one-quarter of men with 19 to 60 months of experience and one-fifth of men with fewer than 19 months of experience. Husbands' cumulative experience is also associated with more family-based migration. Twenty-seven percent of men with more than 5 years of experience were accompanied by their wife on their last U.S. trip, and close to one-third had sons or daughters with them, compared to only 5% and 7% of migrants with fewer than 19 months of experience.

The level of social contacts with non-Mexicans also increases with cumulative experience in the U.S. More than one-half of men with more than 5 years of experience had Chicano and Anglo friends compared to around one-third of men with fewer than 19 months of experience. Friendships with blacks were less common, but they increase with levels of migration experience as well. An important prerequisite for non-Mexican friendships is some knowledge of English. In addition to increasing the potential for social interaction with the native-born population, English-language skills are strongly correlated with earnings (Chiswick & Miller 1992; Lindstrom & Massey 1994). Temporary migrants therefore have a strong motivation to learn some English. In spite of the relatively short duration of most trips, migrants nevertheless accumulate English-language

TABLE 2: Characteristics of Men’s Last U.S. Trip by Months of U.S. Migration Experience, Mexico and U.S. Analytic Samples

	Total Months of U.S. Migration Experience Accumulated across All Trips, Mexico Sample			U.S. Sample
	1–18 Months	19–60 Months	61+ Months	
Median number of U.S. trips	1.0	3.0	6.0	3.0
Median duration of last trip (months)	6.0	11.2	12.0	90.0
Percentage of migrant household heads				
With legal documents	21.9	27.1	52.9	62.2
With spouse in U.S.	4.7	8.5	26.7	87.0
With children in U.S.	6.9	14.0	32.1	78.9
Who had Chicano friends in U.S.	29.7	54.8	57.4	66.9
Who had black friends in U.S.	15.5	28.4	33.4	43.2
Who had Anglo friends in U.S.	32.9	49.2	65.5	71.2
With no English-language skills	73.5	53.1	18.2	1.5
Who understand a little English	14.5	26.4	25.7	14.4
Who understand English well but do not speak it	1.3	2.9	6.9	4.8
Who speak and understand some English	9.2	16.1	35.1	41.5
Who speak and understand English well	1.5	1.5	14.1	37.8
Number of observations	937	610	637	422

Source: MIGFILE, Mexican Migration Project

skills across trips. Only 11% of migrants with 1–18 months of U.S. experience spoke and understood at least some English, whereas 49% of migrants with more than 5 years of experience spoke and understood at least some English.

Table 2 also presents characteristics of the last trip for the U.S. sample. The figures are consistent with what we would expect given the long median duration of last trip (90 months) and the self-selection of migrants into the U.S. sample. On all four measures of exposure, settled migrants score substantially higher than the most experienced temporary and return migrants.

Table 2 provides evidence that temporary Mexican migrants are not as socially and culturally isolated from U.S. society as one might expect. As they accumulate experience in the U.S., even in a fragmented manner across trips, the legal and linguistic barriers to social integration decline and the opportunities for exposure to, and contact with, U.S. institutions and the native-born population increase.

Based on the evidence presented in Table 2, we conclude that cumulative duration of U.S. migration experience provides a valid measure of exposure to host society norms and values for testing the assimilation/cultural adoption hypothesis.

Results

We divide the analysis into three parts. First, we examine age-specific fertility rates by birth cohort and separation status to demonstrate the potential effect of repeated separations on completed fertility. Second, we use discrete-time multilevel hazard models to estimate the effects of separation, cumulative experience, migration prevalence, and migrant selectivity on the probability of a birth in a given year. Third, we use Poisson multilevel regression models to estimate the effects of migration and migrant selectivity on the total number of children ever born.

SEPARATION AND AGE-SPECIFIC BIRTH RATES

The relative impact of separation on completed fertility is determined by the age-specific fertility rates that a couple would have experienced had they not been separated and by the proportion of a woman's total reproductive time spent apart from her husband. Clearly, if fertility rates are high and separation is long or frequent, then the potential impact of spousal separation on fertility is significant. Conversely, if births are widely spaced and migrant trips are short or sporadic, then the expected impact of separation on completed fertility is small. Table 3 presents age-specific marital fertility rates by birth cohort and separation status during the preceding year for the currently married women included in our Mexico analytic sample. We define three separation statuses: (1) couples who were not separated during the preceding year, (2) couples who were separated 1–7 months, and (3) couples who were separated 8 or more months. In simulations made by Menken (1979), separations of 8 months produced 33%–46% reductions in birth probabilities.

Two patterns are evident in the table. First, in general, the fertility rates of couples who were separated 1–7 months are higher than those of couples who were not separated, a finding which suggests that temporary migrants are selected for higher fertility. Second, the fertility rates for couples who were separated for 8 or more months during the preceding year are in most cases lower than the rates for couples who were not separated, and consistently lower than the rates for couples who were separated only 1–7 months. These differences in age-specific fertility when accumulated across the reproductive-age span produce significant differences in completed fertility. In the two oldest cohorts, where fertility is the highest, the difference in birth rates associated with repeated long separations and relatively short separations of fewer than 8 months amounts to two births. Even in the youngest cohort, where contraceptive use is common, the implied difference in

TABLE 3: Age-Specific Marital Birth Rates by Woman's Birth Cohort and Separation Status during the Preceding Year, Married Women Age 15–49, Mexico Analytic Sample

Woman's Birth Cohort and Length of Separation due to U.S. Migration	Age							TMFR ^a 15-
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Birth cohort 1928-39								
Not separated	.29 (801)	.40 (1,997)	.41 (2,554)	.30 (2,726)	.20 (2,752)	.08 (2,804)	.02 (2,841)	8.48
Separated 1-7 mos.	.34 (67)	.50 (198)	.42 (160)	.50 (131)	.26 (135)	.10 (124)	.04 (109)	10.85
Separated 8-12 mos.	.36 (23)	.33 (86)	.29 (112)	.34 (139)	.23 (177)	.21 (163)	.01 (155)	8.76
Birth cohort 1940-49								
Not separated	.37 (1,659)	.46 (4,070)	.42 (4,998)	.28 (5,232)	.13 (5,343)	.04 (4,782)	.01 (2,868)	8.52
Separated 1-7 mos.	.41 (86)	.51 (195)	.38 (237)	.33 (262)	.23 (237)	.04 (213)	.01 (118)	9.51
Separated 8-12 mos.	.28 (30)	.49 (120)	.35 (212)	.23 (291)	.10 (342)	.02 (344)	.01 (196)	7.45
Birth cohort 1950-59								
Not separated	.40 (2,080)	.39 (4,974)	.27 (6,359)	.15 (6,040)	.08 (3,660)	.05 (1,000)		6.71
Separated 1-7 mos.	.32 (67)	.36 (314)	.25 (340)	.17 (374)	.09 (246)	.03 (65)		6.11
Separated 8-12 mos.	.31 (79)	.36 (313)	.25 (445)	.19 (416)	.08 (294)	.01 (66)		5.97
Birth cohort 1960-75								
Not separated	.35 (2,395)	.30 (4,813)	.25 (3,457)	.06 (1,054)				4.83
Separated 1-7 mos.	.46 (145)	.32 (410)	.20 (334)	.16 (93)				5.69
Separated 8-12 mos.	.30 (145)	.20 (356)	.16 (268)	.09 (87)				3.72
(Total number of women = 4,995)								

Source: PERSFILE and LIFEFILE, Mexican Migration Project

Note: Number of life years are in parentheses.

^a Total marital fertility rate

total fertility amounts to two children by age 35. However, few, if any, women in the sample experience the pattern of repeated, long separations needed to produce these differences. Only 9% of the couples in the sample who have ever been separated by migration have experienced ten or more yearly separations of 8 or more months. Separations of relatively shorter duration are more common but are not associated with lower age-specific fertility rates, in part because temporary migrants appear to be selected for higher fertility. In addition, among repeat migrants, the timing of trips and births may be related to one another either through the planning of trips in response to births or through efforts to accelerate the timing of births after returning from the U.S. In the section that follows, we use multivariate regression models to disentangle potential separation effects from the effects of selectivity and to determine whether long but infrequent periods of separation result in lower completed fertility.

THE EFFECTS OF MIGRATION ON THE TIMING OF BIRTHS

The Mexico and U.S. couple histories provide a year-by-year account of the occurrence of births, the timing of migrant trips, and the accumulation of migration experience. In this section we use these yearly histories together with information on the characteristics of the origin communities to assess the predicted effects of separation, assimilation, diffusion, adaptation, and selectivity on the timing and occurrence of births. Because our hypotheses and data incorporate two levels of analysis, individual (or couple) and community, we use a discrete-time multilevel hazard model of the type described by Barber et al. (2000). The model includes a random error component for the intercept to adjust for the fact that individuals from the same community tend to behave more alike than individuals from different communities. Failure to adjust for unobserved heterogeneity in community contexts can lead to biased estimates of the coefficients and underestimates of their standard errors. The model also permits the specification of a random error component for the individual-level coefficients to test whether individual-level effects vary across communities. To estimate the discrete-time multilevel hazard model, we use the software package MLwiN (Goldstein et al. 1998). The log-odds of a birth in year t is given by

$$\log \left[\pi_{ict} / (1 - \pi_{ict}) \right] = \beta_{0c} + \sum_j \beta_j X_{ic} + \sum_k \beta_k Z_{ict} + \sum_l \beta_l W_{ict}$$

$$\beta_{0c} = \beta_{00} + \sum_m \beta_m V_c + u_{0c},$$

where π_{ict} is the probability of a birth occurring in year t to woman i from community c ; X_{ic} are time-invariant covariates that describe the characteristics of woman i and her husband at the time of union formation; Z_{ict} are time-varying covariates that describe woman i and her husband's recent migration and cumulative migration experience; W_{ict} are time-varying measures of the duration of the birth

interval; V_c are characteristics of community c ; β_{00} , β_j , β_k , β_l , and β_m are coefficients; and u_{0c} is a community-level residual that describes the departure of the c -th community's intercept from the overall intercept β_{00} . Individual-level effects that are defined above as fixed can also be allowed to vary across communities by adding a community-level residual term, u_{1c} , to each coefficient to describe its cross-community variability.

We include the following control variables: wife's education, birth cohort, and age at the start of the birth interval; husband's education and current union number; and parity. We also include a series of dummy variables for community type (village, town, city, metro area) to control for variation in fertility across communities that is associated with the local development context. To test the different migration hypotheses, we constructed six measures of migration experience: (1) separation during the preceding year defined by three dummy variables corresponding to separations of 1–3 months, 4–7 months, and 8+ months; (2) husband's cumulative years of U.S. migration experience lagged by two years; (3) wife's cumulative years of U.S. migration experience lagged by two years; (4) total number of months the couple was in the U. S. during the preceding year; (5) the prevalence of male U.S. migration in the community of origin at the time of union formation; and (6) the prevalence of female U.S. migration in the community of origin at the time of union formation. We defined the prevalence variables at the time of union formation, rather than allow them to vary by time, so that the way we measure prevalence is consistent across analyses. The Poisson model of completed fertility that we use in the next section cannot incorporate time-varying covariates.

We estimated the discrete-time model separately for the Mexico and U.S. samples and then with the two samples pooled. It is important to note here that most couples in the U.S. sample began their unions in Mexico and experienced periods of nonmigration and separation in Mexico before settling in the U.S. The same model is therefore appropriate for both samples. Husband's and wife's total U.S. migration experience lagged by two years provides a test of the assimilation hypothesis for the U.S. sample and a weaker version of this hypothesis (cultural adoption) for the Mexico sample. Controlling for total experience, the number of months together in the U.S. during the preceding year provides a test of the adaptation hypothesis. We included in our final models an interaction between together in the U.S. and parity to account for the high costs of childbearing in the U.S. We expect the negative effect on fertility of being in the U.S. to increase with parity. The prevalence of male and female migration in the origin community provides a test of the diffusion hypothesis. A higher prevalence of migration provides nonmigrants with more opportunities for exposure to U.S. norms and values and a reinforcement of those norms and values for return migrants. Finally, in the pooled sample, we included a time-invariant dummy variable to identify women married to temporary or return migrants from the Mexico sample and a time-

invariant dummy variable to identify women from the U.S. sample. Because these variables equal unity even during the years before migration has occurred, they provide a measure of differential fertility that is net of all other factors, including U.S. migration experience. We interpret a negative sign as evidence of selection for lower-than-expected fertility based on all other observed characteristics and a positive sign as evidence of selection for higher-than-expected fertility.

Table 4 presents the results for the three samples. In both the Mexico and the U.S. samples, separations of more than 3 months during the preceding year result in significantly lower birth probabilities. In the Mexico sample, a separation of 4–7 months lowers the odds of a birth by 15% ($1 - e^{-.169}$), and a separation of 8–12 months lowers the odds by 32% ($1 - e^{-.384}$). Controlling for the effect of separation, wife's cumulative migration experience is associated with a lower birth probability in both samples. Among women in the Mexico sample, each additional year of experience is associated with a 4% drop in the odds of a birth ($1 - e^{-.045}$). Husband's experience, however, is associated with lower fertility only in the U.S. sample, where each one-year increase in husband's experience is associated with a 4% drop in the odds of a birth ($1 - e^{-.043}$). In the Mexico sample, husband's U.S. migration experience is actually associated with an increase in fertility. These findings provide some support to the assimilation/cultural adoption hypothesis. However, among temporary and return migrants, only women's experience appears to matter. This result is consistent with the expectation of more selective cultural adoption among temporary migrants. It also may reflect differences in selectivity between men who settle in the U.S. and those who return to Mexico.

The effect of being together in the U.S. has a significant interaction with parity. At parity 0 in the Mexico sample the probability of a birth is significantly higher among women who were temporarily with their husband in the U.S. during the preceding year than among women who were in Mexico. The difference in probabilities, however, reverses itself rapidly, so that by parity 3+ women who were in the U.S. with their husband have a significantly lower probability of birth. A similar pattern is also found in the U.S. sample, although there is no significant positive effect of being in the U.S. at parity 0 (i.e., Lag_1 [together in U.S.] is not significant). One plausible explanation for the significant positive effect at parity 0 in the Mexico sample is that the birth of a child in the U.S. is viewed as a way to eventually obtain legal status in the U.S. through the child's right to citizenship. In a survey of households in the Mexican border city of Tijuana, Guendelman and Jasis (1992) found that among women who chose to give birth on the U.S. side of the border, citizenship opportunities were one of the most important motives for their choice. We interpret the negative effects of being in the U.S. at higher parities as evidence of adaptive behavior in response to the high costs of childbearing and child rearing in the U.S.

Contrary to our expectations, the prevalence of male migration in the community of origin is positively related to the probability of a birth during a given

year in both the Mexico and the U.S. samples. The prevalence of female migration has a negative effect, as predicted by the diffusion hypothesis, but is significant only in the Mexico sample. In the context of migrant-sending communities, men's temporary migration to the U.S. may actually facilitate the preservation of certain features of traditional patriarchal families, including closely spaced births and large family size. Access to comparatively high wages in the U.S. may remove some of the economic pressures at home that would under other circumstances encourage couples to have fewer children. For instance, in traditional rural settings where the demand for income exceeds what men can earn locally, the earnings available through temporary migration may reduce the pressures for women's work outside the home. In such a context, men's migration may act as a conservative and traditionalizing force, particularly if return migrants are self-selected for more traditional values. In a study of temporary U.S. migration in a rural community in the Mexican state of Puebla, Gendreau and Giménez (1998) found that migration materially and symbolically reinforced the power and prestige associated with men's paid work and thereby helped maintain traditional patriarchal culture. In addition, high fertility is associated with high dependency ratios and income demands, which increase the pressure to migrate on male household heads. Results for the selectivity variables from the pooled sample provide some support for this interpretation. Women married to temporary migrants have a significantly higher probability of birth in a given year net of all other factors than women married to men who do not migrate to the U.S., which suggests that temporary and return migrants are positively selected for higher fertility.

In contrast to men, women who experience living and working in the U.S. change their attitudes and ideas about childbearing and family size. Not only do these women have more widely spaced births as a result of their experience, but upon their return to Mexico they may influence the fertility behavior of other women who have never gone to the U.S. These changes in patterns of birth spacing most likely result from interpersonal communication about women's experiences with selected contraceptive methods, as well as the positive example of successful birth spacing provided by return migrant women. In a study on the impact of U.S. migration in a rural community in the Mexican state of Michoacán, Alarcón (1988) reports that the birth-control experience of couples who had lived in the U.S. and returned to the community had been more important than government family-planning efforts in facilitating the spread of contraceptive use.

THE EFFECTS OF MIGRATION ON TOTAL NUMBER OF BIRTHS

The results from the discrete-time multilevel hazard model relate to the timing and occurrence of births. Negative effects on spacing may have little or no effect on completed fertility if couples continue childbearing beyond the age at which they would have otherwise stopped or have shorter-than-normal birth intervals after

TABLE 4: Parameter Estimates for Discrete-Time Multilevel Hazard Model Predicting Birth in a Given Year, Currently Married Women Age 15–49, Mexico and U.S. Analytic Samples

	Mexico Sample		U.S. Sample		Pooled Sample	
	β	z	β	z	β	z
U.S. migration experience						
Lag ₁ (separated 1–3 mos.)	.082	(1.12)	–.156	(1.08)	–.040	(.70)
Lag ₁ (separated 4–7 mos.)	–.169*	(2.68)	–.670*	(3.49)	–.328*	(5.75)
Lag ₁ (separated 8–12 mos.)	–.384*	(7.38)	–.025	(.20)	–.263*	(6.26)
Lag ₂ (husband's total U.S. experience)	.010*	(2.00)	–.043*	(4.30)	–.010*	(2.50)
Lag ₂ (wife's total U.S. experience)	–.045*	(3.21)	–.017+	(1.89)	–.021*	(5.25)
Lag ₁ (together in U.S.)	.078*	(3.25)	.020	(1.33)	–.002	(.28)
Lag ₁ (together in U.S.) × parity 1–2	–.077*	(2.96)	–.044*	(2.75)	–.019*	(2.71)
Lag ₁ (together in U.S.) × parity 3+	–.143*	(4.93)	–.072*	(3.43)	–.055*	(6.11)
Prevalence of migration						
Proportion men with U.S. experience	.703*	(6.22)	.843+	(1.68)	.719*	(6.60)
Proportion women with U.S. experience	–.901*	(1.98)	–1.083	(.71)	–1.034*	(2.46)
Selectivity						
Nonmigrant					—	—
Temporary/return migrant					.109*	(5.45)
Settled migrant (U.S. sample)					.050	(1.35)
<i>Control variables</i>						
Wife's characteristics						
Age						
15–19	—	—	—	—	—	—
20–24	.036	(1.13)	–.279*	(2.01)	–.010	(.32)
25–29	–.184*	(5.25)	–.462*	(2.96)	–.232*	(6.82)
30–34	–.763*	(18.61)	–1.029*	(5.50)	–.804*	(20.10)
35–39	–1.366*	(28.46)	–1.689*	(7.34)	–1.412*	(30.04)
40–44	–2.217*	(35.19)	–2.736*	(7.88)	–2.286*	(36.29)
45–49	–3.393*	(29.00)	–4.580*	(4.58)	–3.502*	(28.94)
Education						
No schooling (0–2 yrs.)	—	—	—	—	—	—
Primary	–.166*	(7.55)	.208+	(1.76)	–.124*	(5.64)
Secondary	–.246*	(7.24)	.490*	(3.22)	–.149*	(4.66)
Higher	–.153*	(3.73)	.451*	(2.75)	–.050	(1.32)

TABLE 4: Parameter Estimates for Discrete-Time Multilevel Hazard Model Predicting Birth in a Given Year, Currently Married Women Age 15-49, Mexico and U.S. Analytic Samples (Continued)

	Mexico Sample		U.S. Sample		Pooled Sample	
	β	z	β	z	β	z
<i>Control variables (cont'd)</i>						
Wife's characteristics (cont'd)						
Birth cohort						
1928-39	—	—	—	—	—	—
1940-49	-.037	(1.42)	-.881†	(5.47)	-.101*	(3.88)
1950-59	-.414*	(14.28)	-1.348*	(7.49)	-.471*	(16.82)
1960-75	-.585*	(16.25)	-1.281*	(6.16)	-.604*	(17.26)
Husband's characteristics						
Second union	-.436*	(7.65)	.263	(1.42)	-.287*	(5.52)
Education						
No schooling (0-2 yrs.)	—	—	—	—	—	—
Primary	-.111*	(4.83)	-.104	(.86)	-.127*	(5.52)
Secondary	-.146*	(4.29)	-.179	(1.28)	-.187*	(5.84)
Higher	-.250*	(6.76)	-.397	(2.61)	-.310*	(8.86)
Parity and duration						
Parity						
0	—	—	—	—	—	—
1-2	-.180*	(6.92)	.157	(1.17)	-.139*	(5.35)
3+	-.174*	(5.12)	-.008	(.04)	-.131*	(3.97)
Year						
1	—	—	—	—	—	—
2	1.355*	(61.59)	1.125*	(11.14)	1.315*	(62.62)
3-5	.680*	(28.33)	1.262*	(12.02)	.743*	(32.30)
6+	-.349*	(9.18)	.671*	(3.99)	-.263*	(7.11)
Community type						
Village	—	—	—	—	—	—
Town	.030	(.43)	-.420	(1.40)	.008	(.11)
City	.025	(.38)	-.227	(.80)	-.003	(.04)
Metropolitan area	-.022	(.28)	-.053	(.14)	-.024	(.31)
Intercept	-.572*	(8.54)	-.083	(.23)	-.564*	(8.29)
Variance of random effect						
Intercept: Var(u_{0c})	.017*	(3.40)	.162*	(2.57)	.018*	(3.60)
Number of life years	90,869		5,788		96,657	
Number of women	4,993		422		5,415	

† $p < .10$ * $p < .05$

periods of separation. To determine whether repeat separations and total time spent together in the U.S. affect the number of births, we use a Poisson multilevel regression, which models the expected number of births as a function of total exposure time and individual- and community-level covariate effects. The general form of the model is

$$C_{ic} = \exp[\alpha E_{ic} + \beta_{0c} + \sum_j \beta_j X_{ic}]$$

$$\beta_{0c} = \beta_{00} + \sum_m \beta_m V_c + u_{0c},$$

where C_{ic} is the expected number of births for woman i in community c ; E_{ic} is exposure time defined as the number of years married; X_{ic} are individual- and couple-level covariates; V_c are characteristics of community c ; α , β_{00} , β_j , and β_m are coefficients; and u_{0c} is a community-level residual that describes the departure of the c -th community's intercept from the overall intercept β_{00} . Again, individual-level effects that are defined above as fixed can also be allowed to vary across communities by adding a community-level residual term, u_{1c} , to each coefficient to describe its cross-community variability. We include all the control variables that we used in the models predicting the probability of a birth, and we add the number of infant and child deaths to control for replacement effects. Because our outcome is the total number of births, and our unit of analysis is the couple, we need to define summary measures of couples' migration experience. To test the cumulative effects of separation, we include the total number of years the couple was separated by U.S. migration. To test the assimilation and adaptation hypotheses, we include the total number of years the couple was in the U.S. together. Because separation in almost all cases is due to men's migration, the total years of separation is also a close measure of husband's solo migration experience. Similarly, because most married women's migration experience comes from migration with their husband, the total number of years the couple was together in the U.S. is a close measure of wife's total U.S. migration experience. The total number of years together in the U.S. confounds assimilation and adaptation effects. Even though our two measures of migration experience combine several distinct migration effects, they nevertheless allow us to test whether the negative effects that migration has on the timing of births also reduce the number of births.

In our analysis of completed fertility, we estimated models that defined the effects of U.S. migration as fixed and models that allowed them to vary randomly across communities. Based on a chi-square test, we selected the model that specified the effect of years together in the U.S. as random at the community level as providing the best fit to the data.⁴

The results in Table 5 for the Mexico and U.S. samples show no significant effect of separation on the total number of births.⁵ While being separated in a given year clearly lowers the probability of a birth in the following year, most couples are able to make up for this lost time in subsequent years because separation does not

occur year after year throughout the woman's reproductive age span. The total number of years that a couple is together in the U.S. has a significant negative effect on the total number of births in both samples, although the magnitude of the effect among return migrants is less than half that of migrants in the U.S. sample. This result is consistent with the negative effects of husband's and wife's cumulative experience and of being together in the U.S. found for the U.S. sample in the analysis of birth probabilities. Among couples who settle in the U.S., the processes of both adaptation and assimilation appear to be taking place. Among return migrant couples, adaptation appears to be the more important process of the two. While together in the U.S., couples who eventually return to Mexico avoid having a second or more birth in order to maximize saved earnings. Upon returning to Mexico, delayed births are partially made up, so that time spent in the U.S. has only modest effects on completed fertility (i.e., each one year of time spent in the U.S. reduces the total number of births by 1% [$1 - e^{-.010}$]).

The variance of the random component for the effect of years together in the U.S. (found at the bottom of Table 5) is statistically significant, although relatively small. The covariance of this variance and the variance associated with the intercept is negative and significant. Among return migrants in Mexico, the negative effect of time spent in the U.S. on the number of births tends to be greater (farther from zero) in communities that have higher-than-expected mean fertility. Likewise, the effect tends to be weaker (closer to zero) in communities that have lower-than-expected mean fertility.

In spite of only modest individual-level migration effects on completed fertility among return migrants, there does appear to be evidence of significant diffusion effects. For example, women living in communities with a .10 prevalence of female migration have 15% fewer children ($1 - e^{-1.589(.10)}$) than women living in communities with a zero prevalence of female migration. This community effect is not restricted to women who live in Mexico but extends to women who have settled in the U.S., and indeed it is even larger in the U.S. sample. The community-level effects in the U.S. sample relate to both reproductive time spent in Mexico before settlement in the U.S. and subsequent time spent together in the U.S. The socializing effects of the community of origin appear to continue influencing the behavior of women even after they settle in the U.S. These effects are likely to be reinforced by continual contact with the community of origin through frequent return visits and regular communication with family and friends. In contrast to women's migration, the proportion of men in the origin community with U.S. migration experience has a positive effect on the number of children, although the effect is small and only marginally significant in the Mexico sample.

Our final result relates to the selectivity of temporary and return migrants and migrants who settle in the U.S. Consistent with the results from the model of birth spacing, we find that temporary and return migrants are selected for higher-than-expected completed fertility. For men and women with large family size preferences,

TABLE 5: Parameter Estimates for Multilevel Poisson Regression Model Predicting Total Number of Births, Currently Married Women, Mexico and U.S. Analytic Samples

	Mexico Sample		U.S. Sample		Pooled Sample	
	β	z	β	z	β	z
U.S. migration experience						
Total years of separation	.002	(1.17)	-.008	(.25)	-.0001	(.06)
Total years together in U.S.	-.010*	(2.08)	-.024*	(2.25)	-.012*	(5.13)
Prevalence of migration						
Proportion men with U.S. experience	.191+	(1.79)	.243	(.65)	.077	(.69)
Proportion women with U.S. experience	-1.589*	(4.37)	-2.314*	(2.95)	-2.097*	(6.31)
Selectivity						
Nonmigrant					—	—
Temporary/return migrant					.046*	(2.72)
Settled migrant (U.S. sample)					-.052	(1.54)
<i>Control variables</i>						
Wife's characteristics						
Age at marriage	.066*	(5.08)	-.040	(.57)	.050*	(3.79)
Age ²	-.002*	(5.33)	.001	(.50)	-.001*	(4.00)
Education						
No schooling (0–2 yrs.)	—	—	—	—	—	—
Primary	-.111*	(6.31)	.218*	(2.26)	-.076*	(4.40)
Secondary	-.190*	(6.78)	.375*	(3.00)	-.111*	(4.14)
Higher	-.174*	(5.21)	.277*	(2.09)	-.107*	(3.36)
Birth cohort						
1928–39	—	—	—	—	—	—
1940–49	.134*	(6.34)	-.194	(1.43)	.103*	(4.85)
1950–59	.316*	(8.75)	.140	(.78)	.294*	(8.28)
1960–75	.238*	(4.03)	.370	(1.48)	.271*	(4.70)
Number of infant and child deaths	.144*	(19.47)	.085+	(1.93)	.145*	(19.58)
Husband's characteristics						
Second union	-.442*	(8.89)	-.029	(.20)	-.370*	(8.15)
Education						
No schooling (0–2 yrs.)	—	—	—	—	—	—
Primary	-.033*	(1.76)	.106	(1.08)	-.037*	(1.98)
Secondary	-.081*	(2.95)	-.017	(.15)	-.102*	(3.80)
Higher	-.151*	(5.06)	-.127	(1.03)	-.182*	(6.29)
Duration						
Union duration (years)	.048*	(19.08)	.078*	(6.82)	.049*	(19.64)

TABLE 5: Parameter Estimates for Multilevel Poisson Regression Model Predicting Total Number of Births, Currently Married Women, Mexico and U.S. Analytic Samples (Continued)

Variable Label	Mexico Sample		U.S. Sample		Pooled Sample	
	β	z	β	z	β	z
<i>Control variables (cont'd)</i>						
Community type						
Village	—	—	—	—	—	—
Town	-.001	(.02)	-.337	(1.48)	-.033	(.53)
City	-.013	(.25)	-.134	(.62)	-.035	(.59)
Metropolitan area	-.051†	(1.86)	-.072	(.24)	-.092	(1.28)
Intercept	-.237	(1.26)	.226	(.27)	-.055*	(.29)
Variances of random effects						
Intercept: $\text{Var}(u_{0c})$.012*	(3.40)	.092*	(2.52)	.016*	(3.65)
Total years together in						
U.S.: $\text{Var}(u_{1c})$.0002*	(2.00)				
$\text{Cov}(u_{0c}, u_{1c})$	-.0015*	(3.00)				
Number of women	4,995		422		5,417	

† $p < .10$ * $p < .05$

temporary migration to the U.S. provides an opportunity to combine the economic advantages of relatively high wages in the U.S. with relatively low family maintenance costs in Mexico. On the other hand, for men and women with high mobility aspirations, long-term settlement in the U.S. and small family size represent a potential route to improved socioeconomic status.

Conclusion and Discussion

In this article we used a unique data set containing retrospective life history data for married men and women on both sides of the Mexico-U.S. border to examine the effects of U.S. migration on the spacing of births and completed fertility. We examined separation, assimilation, adaptation, diffusion, and selectivity effects. As expected, we find significant negative effects of separation on the probability of a birth in the short term. These results are consistent with the findings of Massey and Mullan (1984) and with simulations of separation effects generated by mathematical models of fertility. However, we find no long-term effects of separation in terms of lower completed fertility, even among women in the high-fertility cohorts. Evidently, couples are able to adjust their fertility after returning to Mexico to compensate for lost reproductive time. In addition, we find that the

patterns of separation experienced by most migrant couples do not approach the intensity of repeated separations needed to produce significantly lower completed fertility. Most separations are of relatively short duration, and repeated long separations are not common.

With respect to the economic and cultural effects of time spent in the U.S., the results of this analysis are consistent with other studies that find a significant negative effect of experience in the U.S. on the fertility of first-generation immigrants. Conditions encountered in the U.S. lead to lower fertility both through the adoption of low-fertility norms and through the effects of economic conditions that discourage high-parity births. As we would expect, the economic effects of being in the U.S. are felt by temporary and settled migrants alike; the cultural effects of migration are more selective by gender and migration type. Among settled migrants, both men's and women's cumulative experience in the U.S. is associated with more widely spaced and fewer births. However, among men and women who return to Mexico, the effect of being in the U.S. on subsequent fertility differs, we suspect in large part because men and women have different affinities for the family roles and reproductive norms they encounter in the U.S.

Data on men's experience during their most recent trip to the U.S. indicate that Mexican migrants, both temporary and settled, have many opportunities for social interaction with non-Mexicans and that these opportunities increase with cumulative time spent in the U.S. We suspect that the absence of a significant negative effect of men's U.S. experience on fertility in Mexico is due not to a lack of exposure to low-fertility norms and values in the U.S., but rather to a rejection of them. This interpretation is supported by fieldwork conducted in migrant communities in Mexico by the principal author. Men with experience in the U.S. were very aware of family values and gender roles prevalent in the U.S. (such as the small family ideal, greater female autonomy, and more equitable relations between marriage partners) and rejected them in favor of traditional, patriarchal family relations that emphasize the husband's and father's authority in the home. Men in fact cited U.S. family values as a reason for not settling in the U.S. and as a basis for preferring Mexican-born women to Mexican American women as potential spouses (Lindstrom 1995; also see Alarcón 1988).

The experience of living and working in the U.S. has a very different result for women. Upon returning to Mexico, women with U.S. experience have more widely spaced births and slightly lower completed fertility. We suspect that women and couples who return to Mexico after being in the U.S. return with greater contraceptive experience. Higher contraceptive use while in the U.S. certainly accounts for the lower birth probabilities that are associated with being together in the U.S. in both the Mexico and U.S. samples. Interestingly enough, women's experience with birth spacing leads to only slightly lower-than-expected completed fertility after returning to Mexico. The depressing effect of experience on fertility,

however, is larger in communities where average fertility is higher than the covariates in our model would predict.

Differences in the effects of cumulative experience between return migrants and settled migrants may also reflect important differences in migrant selectivity. The negative effects of experience in the U.S. on the occurrence of births are more pronounced among settled migrants than migrants who return to Mexico. The evidence also appears to suggest that high fertility in Mexico may be associated with temporary migration to the U.S. This result is important for understanding the decision to settle in the U.S. In an analysis of migrant selectivity, Lindstrom and Massey (1994) found no evidence to suggest that the structural processes of English-language acquisition and earnings attainment were different for Mexican migrants who stayed in the U.S. and those who returned to Mexico. Our results in this article indicate that these two migrant types may be differentially selected with respect to fertility preferences. This selectivity suggests that the decision to settle in the U.S. as opposed to pursuing a pattern of temporary repeat migration is not entirely an outcome of the migration process; it is also influenced by economic-mobility and family-building strategies formulated at the outset of union formation. Our result is also consistent with the selectivity effects identified by Schultz (1988) in a study of internal migration in Colombia. Because migrants have heterogeneous preferences with respect to family size, decisions about choice of destination will be influenced by the cost of services and family maintenance in alternative locations as well as wage differentials. In the context of Mexico-U.S. migration, large family preferences combined with substantial differences in wages and family maintenance costs encourage a binational strategy of locating work in the U.S. and family reproduction in Mexico.

Finally, the effects of women and men's experience at the couple and community level on fertility behavior highlight the potentially important effect of exposure to innovative ideas on fertility change. Because openness to change in family relations and family size may vary by gender as well as by generation and other factors, it really matters who is being exposed to these ideas and who the agents of diffusion are.

Notes

1. The Mexican Migration Project is a research effort of the University of Pennsylvania Population Studies Center.
2. See Singley and Landale (1998) for a rare example of an analysis that includes migrants and nonmigrants in the place of origin.
3. We first selected women with more than two U.S. migration trips from the 20 communities where wives' life histories were collected and estimated a linear regression model predicting months of U.S. migration experience in the interval between return from first U.S. trip and departure for last U.S. trip. We used as covariates in the model

characteristics of the first and last U.S. trip, total length of the interval, and the total number of trips; this information is available for all women in the samples. We then used the estimates from this model to predict months of migration experience between the first and last U.S. trip for the women with incomplete migration histories. Next we divided the predicted months of experience by the number of intervening trips. To assign trips to calendar years we used information on the timing and occurrence of births in the U.S. and husband's migration trips. If neither of these two types of events occurred, we spaced the intervening trips at equal intervals between the start and end of the interval formed by first and last U.S. trip.

4. In our analysis of the timing of births, we attempted to estimate models that allowed the effects of cumulative experience to vary across communities. However, we were not able to achieve convergence in the estimates in any of these attempts.

5. We estimated a model with interactions between cohort and total years of separation to test for significant separation effects in the oldest cohorts, where fertility is the highest. None of the interactions was significant.

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Voluntary Associations and Fertility Limitation*

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Abstract

This article investigates the influence of participation in and exposure to voluntary associations on fertility-limiting behavior. Its theoretical framework, drawn from the sociological literature on social networks and voluntary associations, the demographic literature on program participation, and the literature on health behavior, delineates the mechanisms through which participation in voluntary associations is likely to influence permanent contraceptive use. The article draws from three data sources to empirically test the framework: individual-level survey data from couples residing in the Chitwan Valley in south-central Nepal; data on the neighborhoods of the Chitwan Valley collected using an integrated application of ethnographic, survey, and archival methods; and the authors' own ethnographic interviews in these neighborhoods. Empirical analyses show that participation in a range of voluntary associations increases permanent contraceptive use. Furthermore, living in a neighborhood with a voluntary association increases permanent contraceptive use. Finally, participation in different types of voluntary associations — including credit groups, women's groups, agricultural groups, and youth groups — appears to be similarly related to permanent contraceptive use.

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The study of voluntary associations in the U.S. has a long history, dating back to de Tocqueville's observation that America is a country of "joiners." Much of this literature has focused on *who* is likely to participate (Auslander & Litwin 1988; Booth 1972; Curtis, Grabb & Baer 1992; McPherson & Smith-Lovin 1986; Scott 1957). Less research has examined the *consequences* of this participation, although sociologists have long recognized the importance of social networks in determining individual behaviors. For instance, Durkheim (1951 [1897]) examined the influence of social networks in his exploration of suicide — hypothesizing that individuals who were integrated into networks would be less likely to commit suicide. More recently, social networks have been proposed as important factors in a range of behaviors, including collective action, coping with job loss, career advancement, and preventive health behaviors (Fischer 1982; Granovetter 1973; Marwell, Oliver & Pahl 1988; Seeman, Seeman & Sayles 1985; Uehara 1990). Ivan Light (1972) has suggested that one of the reasons Chinese and Japanese immigrants to the U.S. have been successful in establishing businesses and avoiding reliance on welfare programs is because of the suprafamilial social structures in their country of origin, namely rotating credit associations.

Thus, participating in voluntary associations is likely to affect many domains of life, particularly as intragroup social interactions lead to the development of social networks with other association members. High fertility and the resulting population growth in poor countries is one of the world's most pressing social problems. Although recent public policies have helped slow population growth substantially in some areas, other regions of the world are still experiencing high levels of growth. Currently Africa, Latin America, and Asia are experiencing the largest population growth (Bongaarts 1994). In South Asia, population size increased from .5 billion in 1950 to 1.37 billion in 1995, a 174% increase (United Nations 1999). Because nearly a quarter of the world's population now resides in South Asia, continued growth in this region will have a large influence on the world's population.

High rates of population growth in South Asia are particularly puzzling given the long-standing antinatalist policies of these countries. Because increasing access to family planning methods has not reduced fertility to replacement levels in South Asia, demographers have looked to disciplines such as economics, sociology, and anthropology in their investigations of fertility patterns, hoping to find explanations to inform policies to stimulate further fertility decline. Some of this research has focused on the power of social networks to explain fertility behavior (Entwisle et al. 1996; Montgomery & Casterline 1993; Pollak & Watkins 1993; Valente et al. 1997). Other research has addressed the role of formal voluntary associations in promoting fertility limitation, particularly the role of bank-sponsored associations providing credit to groups in poor countries (Pitt et al. 1999).

The research reported here contributes to the literature on social networks, voluntary associations, and fertility limitation in three important ways. First, we

draw from the sociological literature on voluntary associations and social networks, the demographic literature on program participation, and sociological and demographic literatures on health behaviors to create a framework for examining how voluntary associations are likely to influence fertility behavior. Our theoretical goal is to explicate the multiple mechanisms through which voluntary associations are likely to influence behavior using the example of fertility behavior in a rural area of Nepal. Our empirical tests of this framework distinguish among types of voluntary associations in that setting, including women's groups, credit groups, and other groups. Examining multiple group types within the same theoretical and analytic framework can illuminate which types of groups are most likely to influence fertility limitation. In addition, because the groups have distinct selection procedures and other characteristics, comparison of their different relationships to contraceptive use may also shed light on the mechanisms by which group participation affects fertility limitation.

Second, we use couple data to examine the influence of both husbands' and wives' participation in these voluntary associations on couples' fertility behavior. Past research either has focused on women exclusively or, when both women and men are analyzed, has not analyzed couples (rather, independent samples of men and women have been analyzed). Because fertility decisions are often made jointly by couples, it is important to examine participation at the couple level to understand how group participation influences behavior. Examining couples is particularly important because in this setting — and probably in other poor countries where women have less freedom to behave as they wish relative to men — men are much more likely to participate in voluntary associations than their wives. Thus, if we examined only women's participation, we would be ignoring most of the group participation in this setting.

Third, we use data on the presence of voluntary associations in neighborhoods to examine whether these groups have any influence on the fertility behavior of individuals who are not direct participants. This analysis also informs our theoretical model of behavior by suggesting specific mechanisms by which the mere proximity of these groups affects fertility behavior.

We use a unique combination of survey, archival, and ethnographic data from the Chitwan Valley in central Nepal for our empirical analyses. Individual-level survey data contain retrospective information about participation in specific voluntary associations, as well as the timing of those experiences. The data also contain detailed information about fertility and contraceptive use collected using a modified life history calendar (Axinn, Pearce & Ghimire 1999). In addition, we use neighborhood data collected with a neighborhood history calendar — an integrated application of survey, archival, and ethnographic methods (Axinn, Barber & Ghimire 1997). Finally, we use data from our own ethnographic investigation of women's groups, credit groups, and youth groups in the Chitwan Valley to provide additional information and insights on these groups.

Setting

Although the theoretical framework developed in this article is applicable to a variety of times and settings, hypotheses derived from the theory must take into account characteristics of the area studied. Nepal is one of the poorest countries in the world, with an economy based mainly on subsistence agriculture. In 1996, for example, over 80% of households in our study area were farmers (authors' tabulations, not shown in tables). However, Nepal has experienced relatively rapid social and economic change in recent years. The setting for this study — the Chitwan Valley in south-central Nepal — was covered by virgin forests until the early 1950s, when the government began to clear the forest and make farm plots available to settlers. The first year-round road into Chitwan was completed in 1979, linking Chitwan's largest town, Narayanghat, to cities in eastern Nepal and India. Other important roads followed, linking Narayanghat to Kathmandu, Nepal's capital city. Because of Narayanghat's central location, this once isolated town was transformed into the transportation hub of the country by the mid-1980s.

Nepal is an ideal setting for an investigation of the relationship between voluntary associations and fertility limitation for at least two reasons. First, Nepal has only recently begun to experience the transition from uncontrolled fertility to controlled fertility through the use of contraception. Because this transition began within the lifetimes of many current residents, significant variation in completed family size and other aspects of fertility behavior exist within the population. Second, Nepal has an abundant and increasing number of voluntary associations. These vary from small groups of women working to improve social conditions, to youth soccer teams, to money-pooling/money-lending groups, to agricultural user groups. Voluntary associations are particularly important in this context, where individuals are unlikely to hold jobs away from home, and where communication is mainly achieved via personal contact. Often, social networks are restricted to those seen frequently, such as co-participants in voluntary associations. The four types of groups investigated in this article — women's groups, credit groups, youth groups, and agricultural groups — are described below. These group types are not mutually exclusive; many women's groups have a credit element, many agricultural groups have a credit element, and credit groups are often targeted to specific groups of people such as women or farmers.

WOMEN'S GROUPS

Women's groups (or, literally translated, "mothers' groups") are, by definition, composed entirely or mainly of women.¹ These groups have a wide range of goals. Interviewed members of one group described their main goal as pooling small amounts of money to buy chairs, tents, cookware, and utensils for local wedding celebrations. This resource pooling not only obviates the need for group members to rent the equipment when a wedding takes place in their family but also allows

them to loan the equipment to other neighbors for small fees. Any profits from this venture can then be used for small loans to group members who need money to pay for medical services or to replace a farm animal that dies. Members from another women's group discussed loftier social welfare ambitions for their group, such as encouraging equality between men and women and among the ethnic groups in the region. Generally speaking, women's groups are formed to improve living conditions for women and their families, and they may be categorized into four main types: credit or saving groups, labor-pooling groups, cultural groups, and social action groups. Many women's groups have at least some money component. Often members contribute a small amount of money (usually monthly or yearly) to a combined savings account that can be used for emergencies or by each of the members on a rotating basis. Culturally oriented women's groups often organize singing and dancing activities to raise awareness of their culture among other ethnic groups or among the younger members of their own groups. Sometimes these cultural performances are enacted for donations, which are then used for a variety of causes such as purchasing books for local schoolchildren, helping a sick neighbor get medical care, or paying a local teacher's salary. Thus, cultural groups sometimes include an element of social action. Women's groups entirely devoted to social action are also not uncommon. For instance, some groups form to lobby the local government for placing a school or health clinic near the group members' neighborhoods. In fact, our own data indicate that 76% of the schools in the study area were formed as a direct result of community-based social action. Using a combination of ethnographic, survey, and archival methods, we categorized each of the 147 schools in the study area as resulting from one (or a combination) of the following: community-based lobbying and fund-raising, government allocation, or private funding and construction. In all, 76% of the schools were categorized as resulting from community-based action, 25% as resulting from government allocation, and 21% as resulting from private individuals' efforts. (Many schools were included in more than one category.)

CREDIT GROUPS

Similar to women's groups, credit groups encompass a wide range of objectives. As used here, the term *credit group* encompasses all types of groups that involve pooling money. On the small end of the spectrum, the rotating credit groups are similar to those described by Geertz that exist throughout the world (Geertz 1962). Five or six work colleagues pool a small amount of money each month, say 100 rupees (about \$1.50) each, that is then given as a monthly "loan" to one of the group members. By taking the loan, the member agrees to make his or her contribution each month for the duration of the club. These types of credit groups are probably better conceptualized as savings groups — members typically join these small-scale groups to enforce saving for a special event or for some emergency. *Dhukuti* groups,

or rotating credit groups, are popular in Nepal and rely on group members' contributions rather than on financing from a bank or other organizations. During interviews, members of these types of groups reported spending their "loan" (savings) on medical care for a sick child, a wedding party, religious ritual ceremonies, rental of a tractor, the purchase of seeds, treatment for sick livestock, and other needs. This type of pooling opportunity may be particularly important in a setting like Nepal, where family members are likely to remit their earnings to a senior member of the household. A small savings group allows individuals, particularly young people or other less powerful members of a household, to have more control over a portion of their earnings. Prior to remitting their salary, they may give a small portion of it to a savings group and then when their turn comes to take the group sum, they may be more free to spend the money without consulting other household members. In fact, several members of our interviewing staff who conducted the large-scale individual survey described below formed a small rotating credit/savings group during the study for this purpose. Six individuals each contributed 100 rupees per month, and every two months one group member took the 1,200 rupees to spend as he or she wished. Rotating credit/savings groups also encourage saving small sums of money to accumulate larger sums, when the smaller sums would likely have been spent had they not been contributed to the savings group. This aspect of the credit/savings group is likely to be particularly important in settings or among populations with little access to formal financial institutions that lend money (e.g., Light 1972, 1977). Overall, existing research on small rotating credit groups has focused on both economic and social aspects of the groups — the increased propensity to save money and spend it wisely and the social bonds formed through these associations (Geertz 1962).

At the other end of the credit group spectrum are credit groups in Nepal organized by banks or other agencies, similar to the Grameen Bank credit programs in Bangladesh (Amin, Li & Ahmed 1996; Hashemi, Schuler & Riley 1996; Pitt et al. 1999; Schuler & Hashemi 1994; Shehabuddin 1992). In these types of groups, an outside agency provides the loan to group members at a low interest rate, and each group member is jointly responsible for paying back the loan. These loans are usually for commercial purposes, such as starting a small shop, buying a cow or buffalo for milk production, raising pigs or vegetables to sell, or starting a handicraft business. One of the interviewed women belongs to a credit group (with four other women) that received a loan from the World Development Organization (WDO) to buy female water buffalos. Group members sell the milk produced by the buffalos to pay back the loan and the 12% interest; profits are used to contribute to a savings pool that can be used when a buffalo falls ill or dies. The WDO mandates that group members meet monthly and discuss how the payment plan is progressing, and it even offers classes in how to care for the buffalos.

YOUTH GROUPS

Youth groups in Nepal appear to be quite different from credit groups and women's groups. Their main distinguishing feature is that they are primarily composed of young, unmarried girls and boys (or young men and women). Youth groups are usually formed by the young people themselves for entertainment purposes. Some are mixed gender; some revolve around a sports team, such as a soccer (football) club; some have a civic component. For example, one youth group raises money through dance performances during religious festivals and spends the money on local improvements such as replacing burned-out lightbulbs in local street lamps.

AGRICULTURAL GROUPS

Because rural Nepal's economy is based on subsistence agriculture, it is not surprising that agricultural groups are one of the most common types of voluntary associations in Nepal. There are two main types of agricultural groups: farming credit groups and users' groups. Farming credit groups such as the Small Farmers' Development Group (SFDP) are common in Nepal (Axinn 1992). The SFDP is a program of the Agricultural Development Bank that provides collateral-free loans to poor farmers, allowing them to increase their income through activities such as livestock production, dairy production, grain storage, cloth weaving, mill construction, or aquaculture (Axinn 1992). The second type of agricultural group, a users' group, is formed for the cooperative management of a common natural resource such as a forest, irrigation system, or common land. Members of these groups are individuals who live nearby and make use of a common resource. Users' groups create rules and guidelines for the development, utilization, and conservation of the resource (Joshi, Jali & Hamid 1997) and manage conflicts among users (Thapa 1997). By joining forces, members are able to optimize overall use of the resource while allowing each user to share in its benefits (Ostrom 1990). In addition, a users' group may register with formal organizations or agencies that contribute financial or legal support (Shukla et al. 1997).

Theoretical Framework

The demographic and sociological literatures have suggested multiple mechanisms through which social networks and voluntary associations affect behavior. These mechanisms may be grouped into four categories: social support, attitudinal change, economic incentives, and social action. Below, we describe how each type of mechanism works and provide examples from the study setting.

SOCIAL SUPPORT

Social support is perhaps the most widely cited explanation for how social networks affect behavior. Social support assumes a variety of forms, from providing monetary assistance or instrumental help in achieving some goal to offering advice, information, or attentive listening. Many disciplines have drawn on the concept of social support to explain the benefits of specific group memberships. Demographers point to the social support of a spouse in reducing risky behaviors and encouraging healthy ones (Waite & Gallagher 2000). Likewise, some have suggested that the social support available in religious groups helps explain the positive association between religiosity and physical and mental health (Ellison & Levin 1998). The sociological literature on occupations has stressed the importance of social ties in achieving job goals; and the health literature has shown that social support helps mitigate the negative health consequences of aging and improve overall health. Finally, the literature on rotating credit groups has suggested that the members themselves value the social cooperative aspects of the associations, as well as the economic benefits (Geertz 1962).

One way that social support is hypothesized to operate is directly, by providing assistance or financial support. For instance, health researchers have shown that social support helps people engage in more preventive health behaviors, such as visiting the doctor (House, Robbins & Metzner 1982). In addition, health researchers have hypothesized that the simple presence of another person mitigates the negative effects of stress on health, simply because having a friend to talk to improves mental health (Cohen & Wills 1985; Quick, Nelson & Matuszek 1996). Our ethnographic research in Nepal indicates that direct and indirect help are important functions of local groups. The leader of one women's group told us

Some women have husbands who are very sick. Some women have husbands who drink [alcohol] and play cards too much. These women may need help paying for their children's tuition or health care. In this case, we give them money and advice about how to manage.

The provision of advice and information is an aspect of social support that has been emphasized in the sociological literature. For instance, employment research has found benefit in having work ties that provide information on job options (Granovetter 1973). And health researchers have found evidence that individuals embedded in a social network are more likely to have accurate information about illness and other health conditions. This form of social support may also affect contraceptive use. Group members may share information about the contraceptive options available, increasing use among those who are uninformed. They may also provide advice and support for choosing a particular method, which may increase use among women who need counsel to make a decision (Kohler 1997; Kohler, Behrman & Watkins 2001; Shehabuddin 1992; Valente et al. 1997).

Research suggests that empowerment is also a likely consequence of the increased levels of social support provided by voluntary associations. In the health literature, social support is thought to lead to a sense of mastery over the environment. That is, when individuals believe that they *can* control their behavior, they are more likely to make an attempt (Seeman, Seeman & Sayles 1985). The demographic literature on women's groups has also focused on mastery, or empowerment, as a source of behavioral change, finding mixed support for the hypothesis (Schuler, Hashemi & Riley 1997). However, this literature tends to focus only on the power of women relative to their husbands, positing that increases in cash income as a result of participation in a credit group are likely to empower women to act on preferences that conflict with their husbands'. Other types of behavioral change have also been linked to group participation, including women's empowerment to go against the societal norms of *purdah*, the seclusion of Muslim women within a house or household compound. In terms of contraceptive use, *purdah* may prevent women from traveling to family planning clinics (Shehabuddin 1992).

We argue that men's feelings of empowerment as a result of group membership may also be relevant to contraceptive use, although this has not been proposed previously in the literature. Our ethnographic research in Nepal suggests that some men gained a sense of mastery over their lives through their involvement in credit groups because they no longer had to ask their neighbors for assistance when crises arose. A man belonging to a savings group for less than a year told us

If you are in a savings group and a problem arises, like a family member gets sick, you can go to the group for help. Before, we had to look for rich people to give us loans. It caused a lot of stress to find these people and ask them for a loan.

We also posit that empowerment of the *couple* to enact their *jointly determined* preferences is particularly relevant to contraceptive use. Because joining voluntary associations may increase both men's and women's sense of control over their lives, it may also motivate them to change their behavior. This may increase the likelihood of adopting permanent contraceptive use to limit family size, particularly in settings where permanent contraceptive use is not common, such as Nepal and other poor countries.

ATTITUDINAL CHANGE

In addition to providing social support, which is hypothesized to allow individuals to better implement their own goals and preferences, groups may also influence individuals' goals and preferences. Both indirect and direct avenues of attitudinal change have been suggested. Voluntary associations, particularly credit groups, may influence attitudes toward childbearing or contraceptive use indirectly because both affect the group. For instance, many credit groups hold members jointly responsible

for loans. Existing research suggests that peer pressure to have small families results from this joint liability, with members afraid that large families will prevent other group members from paying back their part of the loan (Axinn 1992).

Credit groups also often incorporate a more direct approach to changing members' attitudes. For instance, research on the Grameen Bank's credit programs in Bangladesh describes sixteen "decisions" that members must memorize and recite before becoming members of the group, including, "We shall plan to keep our families small" (Pitt et al. 1999). Some civic groups carry out local activities to encourage family planning. Participation in such a group would overtly expose members to ideologies that encourage family planning and make them aware of contraceptive methods. A leader of a women's group told us

Our committee sings songs and performs plays about family planning and child health. We sing songs hoping to give information about how to space births and the importance of family planning.

Attempts like these to encourage preferences for small families may convince couples to *want* fewer children and may reduce the psychological costs of contraceptive use.

ECONOMIC INCENTIVES

Research on social capital and economic development suggests that voluntary associations in rural villages, including both financial and social organizations, may increase household income in the village (Narayan 1997; Narayan & Pritchett 1999). The authors suggest that this is due in part to social support of the diffusion of innovations (Rogers 1983), increased information, and pooling of household risk. These changes in the economic situation of group members due to their group activities may also alter family size preferences. Although these consequences of group membership are also attitudinal in nature, we have separated these attitudinal changes from those described above because of their special prominence in the demographic literature and because of their unique economic causes. Two opposite affects have been described in the literature. First, voluntary associations may change the value of women's time — raising the opportunity costs for (and thus reducing the likelihood of) bearing and raising children (Becker 1991; Preston 1986). Second, group participation may raise income — increasing the affordability and preference for additional children (Becker 1960; Morduch 1995; Narayan 1997; Narayan & Pritchett 1999).

In addition, networks may provide a type of insurance against risk. In poor countries, where social security and health insurance are not available, children often provide a source of financial support that can be called upon in times of need (Cain 1981). Because some groups offer a substitute for this potential support (Geertz 1962; Morduch 1995; Narayan & Pritchett 1999), membership may act to lower individuals' family size preferences. Credit groups, which often make loans

to individuals to care for sick family members or replace animals that unexpectedly die, most obviously serve in this role. Other types of groups may also provide economic support, through either gifts or loans. In our ethnographic study, one women's group devoted primarily to income-generating activities described a system of depositing 100 rupees of that income into a bank account each month. Any woman in the group could borrow from that money if an emergency arose. Another man described for us the help that loans provide for his credit group's members:

Sometimes we need fertilizers; sometimes we need seeds; sometimes we need tractors. It costs 400 or 500 rupees per hour for a tractor, and we can't do anything without a tractor. Borrowing money from the credit group solves these problems.

SOCIAL ACTION

Social action, whereby individuals work to change the social structure in which they reside and thus change the constraints on their behavior, is a fourth behavior-change mechanism associated with group participation. The sociological literature has long connected collective action with social networks. Gerald Marwell, Pamela Oliver, and their colleagues have extensively described how social ties increase the likelihood of collective action (e.g., Marwell & Oliver 1984; Marwell, Oliver & Pahl 1988; Oliver 1980; Oliver, Marwell & Teixeira 1985). However, research on this connection has been largely absent from the demographic literature.

Some voluntary associations in poor countries, such as credit groups, are targeted at individuals with the fewest resources to implement their preferences. Thus, aspects of voluntary associations that alter preferences may be insufficient to alter behavior. For instance, a woman may adopt the Grameen Bank's position on educating children — and actually prefer to educate her children — but be unable to do so because there is no school nearby. Or a woman may prefer a small family but not have access to a contraceptive method.

Some types of voluntary associations, however, may enhance individuals' ability to increase their access to or the quality of desired resources in their communities (Putnam, Leonardi & Nanetti 1993; Wade 1988). Although not all groups are capable of (or interested in) changing their access to resources, Marwell, Oliver, and Pahl (1988) and others have suggested that dense centralized groups have the best chance to effect such change. For instance, a group of women with a strong leader and members who maintain frequent contact with one another are more likely to engage in social action than a group of women who come from different neighborhoods once a week to allow their children to play together, as women's groups in the U.S. sometimes do. Voluntary associations in settings such as Nepal — a poor country where neighbors are in frequent contact and where associations are unlikely to form without strong leaders — may be able to successfully lobby for a school in their neighborhood, a health clinic nearby, or a bus route to the nearest

city. As we noted above, most of the schools in this setting were built as a direct consequence of community-based social action. The leader of a women's group explained the group's objectives for helping women:

We hope to help women in the villages who have no education. We have already started classes, and some of the women who were totally uneducated can read and write a little now. Our objective is to improve women's abilities to do things that many do not know how to do now. This includes things related to health and community.

Multiple types of social changes — access to education, health care, and public transportation — are known to increase fertility limitation through contraceptive use (Axinn & Yabiku 2001; Hammerslough 1992).

Causal Interpretation

At least two important difficulties are inherent in all research on the consequences of voluntary association participation. First, programs, groups, and associations are not geographically distributed in a random fashion, and thus residents of different locations have different access to groups. For instance, occupation may affect access to labor unions or professional associations, and place of residence may affect access to mothers' groups and organized religious groups. As a result, observed correlations between exposure to or membership in a group and any outcome may be affected, at least in part, by factors connected to the group's location or other factors affecting access to the group. For example, a positive correlation between group membership and contraceptive use might be due to neighborhood characteristics that make residents more likely to use contraceptives regardless of their exposure to the group. However, many credit programs in poor countries, such as the Small Farmers' Development Program, are specifically placed in neighborhoods with a large proportion of poor farmers (Axinn 1992). Without the programs, residents of these neighborhoods may be particularly *unlikely* to adopt a contraceptive method. Thus, if groups tend to be formed in neighborhoods with characteristics that make contraception use less likely than it is in other neighborhoods, then the association between group participation and contraceptive use would be underestimated. Conversely, if groups are formed in neighborhoods with characteristics that make contraception use more likely, associations would be overestimated.

A second difficulty is that, as the term implies, individuals are not forced to join voluntary associations — they join of their own accord — which makes self-selection a factor in this area of research. If individuals who are most likely to limit their family size are also more likely to join these voluntary associations, then a statistical correlation between program participation and permanent contraceptive use may actually overstate the causal relationship. Self-selection is likely to be a much larger factor in groups that are formed by the members themselves than in

groups that are placed in a specific neighborhood by an outside agency. Geographic or neighborhood selection factors are likely to be more important in groups that are formed by an outside agency. Organizations that are formed by the members themselves, however, present a higher risk of self-selection bias.

We take three approaches to mitigate these problems. First, we statistically control for a particularly rich set of neighborhood characteristics that are available in our data and that have not been available in past research in this area. These characteristics — including distance to the nearest health clinic, school, employer, and bus route — are known to strongly affect fertility limitation (Axinn & Yabiku 2001; Hammerslough 1992). Second, we statistically control for a range of individual characteristics that are known to affect contraceptive use and fertility decisions, including ethnic group, age, age at marriage, coresidence with husband, years since first birth, education, and family size. Finally, we investigate a range of voluntary associations, including but not limited to credit groups. Although large bank-based credit groups tend to be placed in specific neighborhoods by outside organizers, women's groups, youth groups, and agricultural groups are more likely to be grassroots organizations formed by the members themselves. Thus, by comparing the consequences of participation in a variety of groups with different criteria for location and membership, we can make inferences about the potential role of selection in the outcome being studied. Unfortunately, in the absence of experimental data on voluntary associations formed solely in randomly selected neighborhoods with randomly assigned members, research on the consequences of group participation can never completely rule out the possibility of geographic-selection or self-selection biases.²

Data and Analytic Strategy

Data used in these analyses are from the Chitwan Valley Family Study (CVFS). The CVFS collected information on a population-based sample of 171 neighborhoods in the western Chitwan Valley in central Nepal. Neighborhoods were defined as clusters of approximately five to 15 households. In this rural setting, a neighborhood is defined as a group of people who have daily face-to-face contact. Information about the presence of groups in neighborhoods was collected in 1994 using the neighborhood history calendar method — a combination of archival, ethnographic, and structured interview methods to arrive at detailed measures of neighborhood characteristics (Axinn, Barber & Ghimire 1997). In addition, in fall 1999, the authors conducted unstructured in-depth interviews in five randomly selected neighborhoods that contained women's groups, one in-depth interview in a neighborhood with multiple credit groups, and one in-depth interview with a member of a local youth group. A structured individual survey component of the CVFS interviewed every resident between the ages of 15 and 59 in those neighbor-

hoods, including their spouses, in 1996–97. The main sample was defined to be individuals who ate and slept in the selected neighborhood for three or more months during the past six months. Thus, the sample naturally contained many couples. The CVFS also interviewed all spouses who did not fall into that sample — those who were temporarily away, older than 59, or younger than 15. Interviewers from the local area were randomly assigned to respondents. In all, 97% of eligible individuals (5,272 respondents) completed individual interviews. All interviews, both structured and unstructured, were conducted in Nepalese, the most common language in Nepal.³ Ethnographic interviews were taped, transcribed, and translated into English.

Retrospective information about the timing of first contraceptive use was collected using a modified version of the life history calendar (Axinn, Pearce & Ghimire 1999; Freedman et al. 1988). We use logistic regression to model the hazard of permanent contraceptive use, restricting these analyses to couples with at least one child and in which the woman is at least 25 years old. Very little permanent contraceptive use occurs in this setting before these conditions are met. We consider any use of sterilization (by either husband or wife), oral contraceptive pills, Depo-Provera, and Norplant as permanent methods. These methods are very rarely used as spacing methods in this context among this age group (Acharya & Bennett 1981; Axinn 1992; Axinn & Yabiku 2001).

We use event history methods to model the risk of adopting a permanent contraceptive. Because the data are precise to the year, we use discrete-time methods to estimate these models. Person-years of exposure are the unit of analysis. To estimate the discrete-time hazard models, we use logistic regression in the form

$$\ln\left(\frac{p}{1-p}\right) = a + \sum(B_k)(X_k),$$

where p is the yearly probability of using a permanent contraceptive method, $\frac{p}{1-p}$ is the odds of the contraceptive use occurring, a is a constant term, B_k represents the effects parameters of the explanatory variables, and X_k represents the explanatory variables in the model. In addition, because of the correlated error structure among individuals within neighborhoods, we estimate multilevel models using MLN software (Goldstein et al. 1998). Existing research demonstrates that this approach results in reasonable assumptions and that the MLN software is appropriate for estimating these models (Barber et al. 2000). Because the MLN and logistic regression results are so similar, we present only the logistic regression results in the tables.

Although using person-years of exposure to risk as the unit of analysis substantially increases the sample size, Petersen (1986, 1991) and Allison (1982, 1984) have shown that using discrete-time methods does not deflate the standard errors and thus provides appropriate tests of statistical significance. Furthermore, because the probability of adopting a permanent contraceptive method is so small

within each year, the estimates obtained using discrete-time methods are very similar to those that would be obtained using continuous-time methods, and the *hazard* of permanent contraceptive use is very similar to the *rate* of permanent contraceptive use. Thus, we will sometimes refer to the effects of the covariates on the rate of permanent contraceptive use.

Our time-varying measures of characteristics of the respondents and their communities are measured in the year prior to the current year of permanent contraceptive use. For example, we use a measure of whether any voluntary association was present in the neighborhood in the prior year to predict the hazard of permanent contraceptive use in the current year. In other words, time-varying covariates are lagged by one year. We adopt this strategy to help guard against reciprocal causation within a particular year. For instance, a couple may decide to move to a neighborhood with a voluntary association specifically because they recently adopted a permanent contraceptive method and are now sure that they are finished with childbearing. Examining characteristics prior to the year of contraceptive use helps ensure that those characteristics are affecting contraceptive use and not vice versa. Of course, these decisions may be planned well in advance, and thus this strategy cannot entirely rule out reciprocal causation.

We present log-odds coefficients in the tables, which describe the additive effect of a one-unit change in the independent variable on the log-odds of adopting a permanent contraceptive method. For example, a coefficient of .08 for wife's year of birth indicates that each additional year later a woman was born is associated with a .08 increase in the log-odds ($e^{.08} = 1.08$ times higher odds) of adopting a permanent contraceptive method in any particular year, given that a permanent contraceptive method has not already been used.

MEASURES OF VOLUNTARY ASSOCIATIONS

Couple-Level Measures of Participation

Our measure of participation in a voluntary association is constructed from the following survey questions.

- Have you ever been a member of a youth club?
- If yes, how old were you when you became a member of a youth club for the first time?
- Have you ever been a member of any other group, such as a users' group, mother's group, a group organized by health volunteers, a rotary club, or any other type of association or organization?
- If yes, how old were you when you became a member of a group, association, or organization for the first time?

This information is used to determine the age at which the respondent first participated in any voluntary association. Respondents who participated in more than one voluntary association were also asked, "What was the name of the group, association, or organization of which you became a member for the first time?" We code a dichotomous measure of voluntary association participation before first birth, which ensures that observed correlations between participation and permanent contraceptive use are not a result of joining voluntary associations after terminating childbearing.

Table 1 presents descriptive statistics for these and other measures included in the analyses. Overall participation levels are low — 2% for women and 14% for men — but are comparable to the low participation rates in some countries reported by Curtis, Grabb, and Baer (1992). Note that we did not measure union or church membership, in contrast to Curtis, Grabb, and Baer (1992), because formal employment in this area is somewhat rare, and Hindu and Buddhist temples in Nepal do not have a formal system of membership.

To distinguish between the types of voluntary associations to which respondents belonged, they were asked, "What are/were those groups, associations, or organizations?" Open-ended answers were coded into multiple group types: agriculture-related groups, women's groups, youth groups, credit groups, users' groups, Small Farmers' Development Program groups, and other groups. In this analysis, we combine SFDP and users' groups with other agriculture-related groups because there are too few participants to obtain reliable estimates of the effect of being in those groups. Unfortunately, because a complete history of participation in voluntary associations was not ascertained, it is impossible to determine with these data whether individuals participated in each type of association before or after the first birth (or permanent contraceptive use). Thus, we discuss the relationships between these measures and permanent contraceptive use as "associations" rather than "influences" or "effects" because the precise temporal order of experiences cannot be determined.

Measures of the participation of husbands and wives in voluntary associations are derived from self-reported answers to the same set of questions. These data are linked to investigate both the separate and cumulative influence of husband's, as well as wife's, participation in voluntary associations on the couple's contraceptive use. As shown in Table 1, men's participation in voluntary associations is much more common than women's, in contrast to the U.S., where men and women have similar levels of membership overall (McPherson & Smith-Lovin 1982).

Neighborhood-Level Measure of the Presence of Voluntary Associations

The CVFS also collected information on the presence of voluntary associations in the 171 neighborhoods represented in its sample using the neighborhood history calendar (Axinn, Barber & Ghimire 1997), an integrated application of survey and

ethnographic methods. This method used structured and unstructured interviews with local residents, multiple key informants, and government records to determine the presence of voluntary associations, including agricultural groups, women's groups, users' groups, and other groups. This information was collected for each of the preceding 43 years — from 1952 through 1994. We code a time-varying measure of whether the respondent's neighborhood included a voluntary association in the previous year.

CONTROLS

We also control for multiple respondent and neighborhood characteristics that may jointly influence whether women or their husbands join voluntary associations and whether women use a permanent contraceptive method.

Individual Characteristics

First, we control for years since the couple's first birth. Because we start the period of risk at the time of first birth, this is essentially a counter variable. This measure controls for the baseline hazard of permanent contraceptive use, which increases monotonically from the time of first birth to the wife's age at 54, where the period of risk stops.

Second, because the propensity to use contraception and the availability of contraception have changed dramatically in Nepal over the past 50 years, we control for the wife's year of birth. This is an interval-level measure, which ranges from 1942 (age 54 at the time of the survey) to 1971 (age 25 at the time of the survey).

We also control for two characteristics of the marriage that are likely to influence contraceptive use and that may also influence group membership. First, a measure of whether the couple coresided during the past year is coded dichotomously. Women who are not living with their husbands are unlikely to use a permanent contraceptive method because of their low risk of pregnancy. Second, wife's age at marriage is coded in years. Couples who delayed marriage may be less likely to limit their fertility because they began childbearing later.

We also control for religious/ethnoracial group with a series of five dichotomous variables: upper-caste Hindu, lower-caste Hindu, Newar, Hill Tibeto-Burmese, and Terai Tibeto-Burmese. Upper-caste Hindus are an elite group in Nepalese society and have historically held the most power and had the greatest access to educational and economic opportunities (Acharya & Bennett 1981; Bennett 1983). Lower-caste Hindus have enjoyed fewer opportunities but identify with the same religious background. Both groups' ancestors originate in India, and both groups practice Hinduism. Newars are a Tibetan-origin group who practice a mixture of Buddhism and Hinduism (Gellner & Quigley 1995). They are also an elite group in Nepal, and the average education among them rivals that of upper-caste Hindus (Gellner & Quigley 1995). Hill Tibeto-Burmese are also of Tibetan origin but tend

TABLE 1: Descriptive Statistics for Measures Used in Analyses

	Mean	Standard Deviation	Min.	Max.
Dependent variable				
Couple used permanent contraceptive method ^a	.64			
Couple-level measures of voluntary association participation				
Wife participated in any voluntary association	.02		0	1
Husband participated in any voluntary association	.14		0	1
Either spouse participated in any voluntary association	.16		0	1
Neighborhood-level measure of voluntary association participation				
Any voluntary association present in couple's neighborhood ^a	.66		0	1
Measures of participation in specific types of voluntary associations				
Either spouse participated in a women's group	.08		0	1
Either spouse participated in a youth group	.24		0	1
Either spouse participated in an agricultural group	.13		0	1
Either spouse participated in a credit group	.13		0	1
Either spouse participated in another type of group	.11		0	1
Individual characteristics				
Years since first birth ^a	11.36		1	37
Wife's year of birth	1960	7.82	1942	1971
Wife and husband coresided during the past year ^a				
Wife's age at marriage				
Religious/ethnoracial group				
Upper-caste Hindu	.47		0	1
Lower-caste Hindu	.11		0	1
Newar	.07		0	1
Hill Tibeto-Burmese	.17		0	1
Terai Tibeto-Burmese	.19		0	1
Wife's parents can/could read	.54		0	1
Husband's parents can/could read	.48		0	1
Wife's number of siblings	6.31	2.84	1	18
Husband's number of siblings	5.89	2.65	1	18

to practice Buddhism. This group includes people such as the Tamang, the Gurung, and the Magar. (For a rich description of the Tamang people of Nepal, see Fricke 1986.) The last group, the Terai Tibeto-Burmese, are the original inhabitants of the Chitwan Valley (Guneratne 1994). Including groups like the Tharu and the Darai, they are indigenous jungle-dwellers who were forced into sedentary agriculture in the 1950s when the valley was cleared and converted to farmland. The Terai Tibeto-

TABLE 1: Descriptive Statistics for Measures Used in Analyses (Continued)

	Mean	Standard Deviation	Min.	Max.
Neighborhood characteristics				
Distance from neighborhood to nearest town (in minutes) ^a	100.49	56.72	0	420
Distance from neighborhood to nearest health service center (in minutes) ^a	25.53	24.25	0	240
Distance from neighborhood to nearest bus stop (in minutes) ^a	17.20	20.53	0	150
Distance from neighborhood to nearest school (in minutes) ^a	9.96	7.69	0	59
Distance from neighborhood to nearest employer (in minutes) ^a	23.06	20.93	0	180
(N = 1,124 couples)				

^a Statistics for time-varying measures are computed for the final person-year contributed to the analysis (time of permanent contraceptive use or, for noncontraceptors, the time of the survey).

Burmese have been much less able to take advantage of the social changes occurring around them than the other groups have. On average, they are much less educated, have higher rates of infant mortality and other health problems, and own less land than the other ethnic groups (Guneratne 1994).

Finally, we include exogenous measures of the couple's parents' education and childbearing behavior. Education is associated with increased participation in voluntary associations (Scott 1957) and increased rates of permanent contraceptive use (Axinn 1992). Measures of whether the wife's parents and the husband's parents can read (or could read, in the case of deceased parents) are coded dichotomously — 1 if either parent can or could read, and 0 otherwise. Measures of how many siblings the wife and the husband each had are also included and are coded as the actual number of children.

Neighborhood Characteristics

Because voluntary associations may be targeted to neighborhoods underserved by family planning clinics or to remote neighborhoods with less access to all types of services, we control for time-varying measures of the travel time from the respondent's neighborhood to the nearest town, health center, bus stop, school, and employer. Each measure is coded as the number of minutes in travel time (by bus, by foot, or combination) from the respondent's neighborhood to the destination.

Results

Table 2 shows the relationship between participation in a voluntary association and permanent contraceptive use. Model 1 shows that wives' participation in voluntary associations is positively related to the hazard of adopting a permanent contraceptive method. However, this coefficient is smaller than its standard error. (In other words, the coefficient is estimated imprecisely. One reason for this is the low overall rate of participation among women.) The magnitude of the coefficient is large — women who have participated in voluntary associations and have not previously adopted a permanent contraceptive method have .24 higher log-odds ($e^{.24} = 1.27$, 27% higher odds) of adopting a permanent contraceptive method in any given year. Model 2 shows that their husbands' participation has a similarly large, and statistically significant, association with permanent contraceptive use — women whose husbands participated in a voluntary association have .23 higher log-odds ($e^{.23} = 1.26$, 26% higher odds) of adopting a permanent contraceptive method.

Model 3 shows that wives' and husbands' participation have independent effects on the hazard of permanent contraceptive use. That is, the coefficients do not change when both measures are included in the same model. This is a particularly important finding because men who participate in voluntary associations may be more likely to be married to women who participate in those associations, and thus a portion of the influence of participation on their contraceptive behavior could be explained by their wife's participation. However, model 3 suggests that men who participate in voluntary associations are more likely to limit their family size regardless of whether their wife participates. In addition, model 4 shows that couples in which either spouse participated in a voluntary association have .25 higher log-odds ($e^{.25} = 1.28$, 28% higher odds) of adopting a permanent contraceptive method in any given year.

Although they are not the focus of this article, other variables in the models also have a significant influence on rates of permanent contraceptive use. Couples who are more likely to adopt a permanent contraceptive method are those whose first birth was longer ago, those where the wife was born more recently, those who live together, and those who delayed marriage. There are also religious/ethnoracial group differences in the propensity to limit fertility via permanent contraceptive use, with upper-caste Hindus the most likely and Terai Tibeto-Burmese groups the least likely to adopt a permanent contraceptive method. Finally, husbands from families with many children are more likely to adopt a permanent contraceptive method.

Overall, the data in Table 2 suggest that couples' fertility-limiting behavior may be more strongly influenced by husbands' participation than by wives' participation in voluntary associations in Nepal. Research on the U.S. shows that women who participate in voluntary associations are more likely than men to join groups oriented toward family affairs (McPherson & Smith-Lovin 1982). However, our

finding is consistent with other research on Nepal showing that husbands' characteristics are more predictive of couples' childbearing behavior (e.g., Axinn 1992). Overall, the evidence for a difference in the influence of men's participation versus women's participation is not strong. The magnitude of the two coefficients is quite similar; however, in part because women's participation is a much rarer event, its influence cannot be estimated as precisely.

Table 3 explores the influence of living in a neighborhood with a voluntary association. Model 1 shows that couples in neighborhoods with voluntary associations have .45 higher log-odds ($e^{.45} = 1.57$, 57% higher odds) of permanent contraceptive use. Model 2 indicates that a couple's participation in voluntary associations does not explain the influence of living near a voluntary association on permanent contraceptive use. Thus, independent of whether couples actually participate in voluntary associations, living in a neighborhood with a voluntary association increases the hazard of permanent contraceptive use.

The neighborhood effects of the presence of voluntary associations may be interpreted as consistent with the social action mechanism described above. That is, couples who do not participate in associations may nonetheless be influenced by the successful lobbying of local groups for more goods and services for their neighborhoods. Because our models control for the presence of several resources known to encourage permanent contraceptive use (i.e., health services, transportation infrastructure, educational opportunities, and employment opportunities), it is not likely that social action related to these specific resources produces the observed relationship between group presence and permanent contraceptive use. However, collective action to bring other goods, services, or programs to the neighborhoods could produce the observed association.

We hypothesized that multiple mechanisms act to produce positive associations between voluntary association participation and permanent contraceptive use, including social support, personal empowerment, economic incentives, and motivation to adopt new attitudes. Many of these mechanisms rely on direct group participation. For a couple to gain social support or receive economic incentives from a group, for instance, at least one member of the couple must participate. The potential influence of these mechanisms is demonstrated by our finding that direct participation is strongly associated with permanent contraceptive use. Other mechanisms, however, such as exposure to new attitudes and increased information, may operate as a result of the mere presence of a voluntary association, regardless of whether either member of the couple actually participates. The influence on contraceptive use of living near a voluntary association, regardless of participation, demonstrates the potential effect of these types of mechanisms. Thus, overall, Tables 2 and 3 provide strong support for a relationship between voluntary associations and permanent contraceptive use and point toward multiple mechanisms that produce this association.

TABLE 2: Logistic Regression Estimates of the Impact of Voluntary Association Participation on the Hazard of Permanent Contraceptive Use

	Model 1	Model 2	Model 3	Model 4
Measures of voluntary associations				
Wife participated in any voluntary association before first birth	.24 (.28)		.24 (.28)	
Husband participated in any voluntary association before first birth		.23* (.12)	.23* (.12)	
Either spouse participated in any voluntary association before first birth				.25* (.12)
Individual characteristics				
Years since first birth	.05** (.02)	.05** (.02)	.05** (.02)	.05** (.02)
Wife's year of birth	.08*** (.02)	.08*** (.02)	.08*** (.02)	.08*** (.02)
Wife and husband coresided during the past year	.45*** (.13)	.45*** (.13)	.45*** (.13)	.45*** (.13)
Wife's age at marriage	.07*** (.02)	.07*** (.02)	.07*** (.02)	.07*** (.02)
Religious/ethnoracial group^a				
Lower-caste Hindu	-.27† (.14)	-.25† (.14)	-.25† (.14)	-.25† (.14)
Newar	-.17 (.15)	-.16 (.15)	-.15 (.15)	-.15 (.15)
Hill Tibeto-Burmese	-.29* (.12)	-.27* (.12)	-.27* (.12)	-.27* (.12)
Terai Tibeto-Burmese	-.90*** (.14)	-.87*** (.14)	-.87*** (.14)	-.87*** (.14)
Wife's parents can/could read	.09 (.09)	.09 (.09)	.08 (.09)	.08 (.09)
Husband's parents can/could read	.09 (.09)	.04 (.02)	.08 (.09)	.07 (.09)
Wife's number of siblings	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.02)
Husband's number of siblings	.04** (.01)	.04** (.02)	.04** (.02)	.04** (.02)

Table 4 examines the influence of the full variety of specific types of voluntary associations in this setting to establish whether different groups are similarly associated with permanent contraceptive use. Table 4 distinguishes between five types of voluntary associations in this setting: women's groups, youth groups, agricul-

TABLE 2: Logistic Regression Estimates of the Impact of Voluntary Association Participation on the Hazard of Permanent Contraceptive Use (Continued)

	Model 1	Model 2	Model 3	Model 4
Neighborhood characteristics				
Distance from neighborhood to nearest town (in hours)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Distance from neighborhood to nearest health service center (in hours)	-.01*** (.002)	-.01*** (.002)	-.01*** (.002)	-.01*** (.002)
Distance from neighborhood to nearest bus stop (in hours)	-.003 [†] (.002)	-.003 [†] (.002)	-.003 [†] (.002)	-.003 [†] (.002)
Distance from neighborhood to nearest school (in hours)	-.004 (.01)	-.004 (.01)	-.004 (.01)	-.004 (.01)
Distance from neighborhood to nearest employer (in hours)	-.002 (.002)	-.002 (.002)	-.002 (.002)	-.002 (.002)
χ^2	190.03	195.76	197.01	197.10
Degrees of freedom	18	18	19	18
Person-years	12,089	12,089	12,089	12,089
(N = 1,124 couples)				

^a Reference group is upper-caste Hindus, two-tailed tests.

[†] $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$ (one-tailed tests except where noted)

tural groups, credit groups, and other groups. Although the relationships between women's groups and youth groups and permanent contraceptive use appear particularly strong, the main conclusion to be drawn from the findings presented in Table 4 is that the relationship between participation and permanent contraceptive use cannot be distinguished statistically among the group types. The direction of the influence is positive for all group types (except "other" groups), although the coefficients for agricultural groups is not statistically significant, and the coefficient for credit groups is only marginally statistically significant. In fact, the confidence intervals for all coefficients overlap substantially. For example, the range .22 through .25 is included in the 95% confidence interval for all types of groups except "other" groups. This means that the true association between each group type and permanent contraceptive use could be .22, .23, .24, or .25 for *all* groups. Thus, our data suggest that all types of voluntary associations may be equally likely to influence permanent contraceptive use. While differential effects for the various group types may have provided clues about which mechanisms are most important, the existence of similar effects strengthens the position that voluntary

TABLE 3: Logistic Regression Estimates of the Impact of Access to Voluntary Associations and Participation on the Hazard of Permanent Contraceptive Use

	Model 1	Model 2
Measures of voluntary associations		
Voluntary association present in couple's neighborhood	.45*** (.08)	.44*** (.08)
Either spouse participated in any voluntary association		.19 [†] (.12)
Individual characteristics		
Years since first birth	.05** (.02)	.05** (.02)
Wife's year of birth	.07*** (.02)	.07*** (.02)
Wife and husband coresided during the past year	.46*** (.13)	.46*** (.13)
Wife's age at marriage	.06*** (.02)	.06*** (.02)
Religious/ethnoracial group ^a		
Lower-caste Hindu	-.23 [†] (.14)	-.22 (.14)
Newar	-.14 (.15)	-.13 (.15)
Hill Tibeto-Burmese	-.26* (.12)	-.24* (.12)
Terai Tibeto-Burmese	-.90*** (.14)	-.88*** (.14)
Wife's parents can/could read	.06 (.09)	.05 (.09)
Husband's parents can/could read	.05 (.09)	.04 (.09)
Wife's number of siblings	-.01 (.01)	-.01 (.01)
Husband's number of siblings	.04** (.02)	.04** (.02)

associations, regardless of how or why they are formed or recruit members, have a strong influence on the likelihood of adopting a permanent contraceptive method.

Of course, recall that the estimates in Table 4 are not based on precise temporal ordering of experiences. This means that some of the group participation included in the measures in Table 4 may have *followed* the permanent contraceptive use. Thus, the relationships in Table 4 should not be interpreted as strong evidence of

TABLE 3: Logistic Regression Estimates of the Impact of Access to Voluntary Associations and Participation on the Hazard of Permanent Contraceptive Use (Continued)

	Model 1	Model 2
Neighborhood characteristics		
Distance from neighborhood to nearest town (in hours)	-.001 (.001)	-.001 (.001)
Distance from neighborhood to nearest health service center (in hours)	-.004** (.002)	-.005** (.002)
Distance from neighborhood to nearest bus stop (in hours)	-.001 (.002)	-.001 (.002)
Distance from neighborhood to nearest school (in hours)	-.003 (.01)	-.003 (.01)
Distance from neighborhood to nearest employer (in hours)	-.002 (.002)	-.002 (.002)
χ^2	222.31	228.04
Degrees of freedom	18	19
Person-years	12,089	12,089
(N = 1,124 couples)		

^a Reference group is upper-caste Hindus, two-tailed tests.

[†] $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$ (one-tailed tests except where noted)

causal relationships. Rather, the coefficients represent bidirectional associations between specific types of group participation and permanent contraceptive use.

Summary and Conclusions

Overall, we have shown that voluntary associations are strongly associated with increased levels of permanent contraceptive use. Couples in which one spouse participated in voluntary associations are more likely to adopt a permanent contraceptive method. In addition, the local presence of a voluntary association increases the odds that couples will adopt a permanent contraceptive method, regardless of whether either spouse actually participates in a voluntary association. This correlation strongly suggests the influence of either social action mechanisms, whereby members work together to alter their surroundings, or diffusion mechanisms, whereby members affected by direct participation transmit this effect to other members of the neighborhoods.⁴ For instance, a nonparticipating couple may be affected by new community resources brought in by a neighborhood association or by changes in fertility practices by their neighbors whose group

TABLE 4: Logistic Regression Estimates of the Impact of Participation in Specific Voluntary Association Types on the Hazard of Permanent Contraceptive Use

	Model 1	Model 2	Model 3	Model 4	Model 5
Measures of voluntary associations					
Either spouse participated in a women's group	.25* (.14)				
Either spouse participated in a youth group		.38*** (.10)			
Either spouse participated in an agricultural group			.07 (.11)		
Either spouse participated in a credit group				.16 [†] (.11)	
Either spouse participated in another type of group					-.04 (.12)
Individual characteristics					
Years since first birth	.05** (.02)	.05** (.02)	.05** (.02)	.06** (.02)	.05** (.02)
Wife's year of birth	.08*** (.02)	.08*** (.02)	.08*** (.02)	.08*** (.02)	.08*** (.02)
Wife and husband coresided during the past year	.45*** (.13)	.46*** (.13)	.45*** (.13)	.45*** (.13)	.45*** (.13)
Wife's age at marriage	.07*** (.02)	.07*** (.02)	.08*** (.02)	.08*** (.02)	.07*** (.02)
Religious/ethnoracial group^a					
Lower-caste Hindu	-.25 [†] (.14)	-.21 (.14)	-.26 [†] (.14)	-.26 [†] (.14)	-.28* (.14)
Newar	-.17 (.15)	-.18 (.15)	-.17 (.15)	-.16 (.15)	-.17 (.15)
Hill Tibeto-Burmese	-.27* (.12)	-.24* (.12)	-.28** (.12)	-.27* (.12)	-.29* (.12)
Terai Tibeto-Burmese	-.88*** (.14)	-.87*** (.14)	-.89*** (.14)	-.88*** (.14)	-.90*** (.14)
Wife's parents can/could read	.08 (.09)	.06 (.09)	.08 (.09)	.08 (.09)	.09 (.09)
Husband's parents can/could read	.08 (.09)	.04 (.09)	.09 (.09)	.08 (.09)	.10 (.09)
Wife's number of siblings	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Husband's number of siblings	.04** (.01)	.04*** (.01)	.04** (.01)	.04** (.01)	.04** (.01)

TABLE 4: Logistic Regression Estimates of the Impact of Participation in Specific Voluntary Association Types on the Hazard of Permanent Contraceptive Use (Continued)

	Model 1	Model 2	Model 3	Model 4	Model 5
Neighborhood characteristics					
Distance from neighborhood to nearest town (in hours)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Distance from neighborhood to nearest health service center (in hours)	-.01*** (.002)	-.01*** (.002)	-.01*** (.002)	-.01*** (.002)	-.01*** (.002)
Distance from neighborhood to nearest bus stop (in hours)	-.003 [†] (.002)	-.002 (.002)	-.003 (.002)	-.003 (.002)	-.003 [†] (.002)
Distance from neighborhood to nearest school (in hours)	-.004 (.01)	-.004 (.01)	-.005 (.01)	-.01 (.01)	-.004 (.01)
Distance from neighborhood to nearest employer (in hours)	-.002 (.002)	-.002 (.002)	-.002 (.002)	-.002 (.002)	-.002 (.002)
χ^2	192.61	208.06	189.34	192.58	188.80
Degrees of freedom	18	18	18	18	18
Person-years	12,089	12,089	12,089	12,089	12,089
(N = 1,124 couples)					

^a Reference group is upper-caste Hindus, two-tailed tests.

[†] $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$ (one-tailed tests except where noted)

participation has exposed them to new information or attitudes about contraceptive methods. Of course, other mechanisms may be operating as well. For example, it may be that the mere presence of a group that encourages information exchange and social support among its members increases interaction among nonmembers as well. Further research will be required to illuminate the specific characteristics of voluntary associations and the specific mechanisms that produce these relationships.

Our examination of multiple types of voluntary associations suggests that a wide range of associations with different characteristics are similarly associated with increased odds of permanent contraceptive use. In addition, the similar associations across group type imply that group formation and member selection processes may not be particularly important in producing the association between participation and contraceptive use. The multiple group types examined here vary dramatically in how they are formed. Credit groups tend to be located by outside agencies in particular neighborhoods with particular characteristics. Women's groups tend to be either spontaneously created by the women themselves or placed in neighborhoods where women are considered most in need of outside help. Users'

groups form at the grassroots level around a valuable natural resource that must be shared. The preliminary finding that all of these groups are similarly associated with higher odds of adopting a permanent contraceptive method suggests an overarching characteristic at work, at least in this setting. Of course, research on other consequences of voluntary association participation, and on contraceptive use in other settings, will help clarify the significance of group formation characteristics on behavior change.

The finding that couples who participate in or are exposed to voluntary associations are more likely to use permanent contraception represents an important addition to our knowledge about family size limitation. It suggests that individuals may be more likely to desire smaller families and to implement their family size preferences in the presence of a supportive interdependent group. Policymakers interested in reducing fertility in poor countries may be successful by implementing programs that encourage local residents to band together to achieve goals, share knowledge, and support one another.

These findings also inform our knowledge about the consequences of participation in voluntary associations and, more generally, about the consequences of social networks. Because high fertility is a pressing social problem for South Asia that has not been satisfactorily solved by conventional policies and programs, permanent contraceptive use is a particularly important consequence in the setting examined here. Yet it is only one of many potential consequences of group participation, suggesting that other social problems in other contexts may also be influenced by the presence of local associations. However, existing research has warned that "most of the people policymakers would seek to help by mobilizing social networks are those we found are least likely to be joiners" (Auslander & Litwin 1988:35). Thus, careful research will be required to uncover the consequences of voluntary association participation and the resulting social networks in other contexts and for other social problems.

Notes

1. McPherson and Smith-Lovin (1986) report a great deal of sex segregation in voluntary associations in the U.S. Similarly, we encountered substantial sex segregation. However, in one of our ethnographic interviews, women from a local women's group told us that they had invited a man to join their group to serve as secretary/treasurer because none of the women could read or write.
2. Two econometric approaches to establishing causality in observational data are instrumental variables models and fixed effects models. The power of the instrumental variables approach relies on an "exclusion restriction" (i.e., the instrument affects the dependent variable only via the independent variable and not directly [Winship & Morgan 1999]). This is usually untestable and often not reasonable (Bound, Jaeger & Baker 1995; Heckman 1997; Winship & Morgan 1999); thus, we do not estimate instrumental variables models.

In fixed effects models, the outcome of one individual with the "condition" of interest (e.g., voluntary association participation) is compared to that of a similar individual (usually a sibling or family member) *without* the condition of interest. Similarity in the outcomes is interpreted as evidence against a causal relationship. However, this interpretation is not appropriate if both individuals are affected by the "condition." Because we believe that all family members are likely to be affected by the voluntary association participation of one family member, we do not estimate family-level fixed effects models in our analyses.

3. Twelve respondents in the sample did not speak Nepalese. Life history calendar information was collected for these respondents, but individual interviews were not conducted. Thus, those respondents are not included in the statistical analyses presented here.

4. Of course, there is always the possibility that the characteristic is a proxy for other, unmeasured characteristics of the individual or neighborhood. For example, it could be that neighborhoods with strong leaders are able to attract voluntary associations to their neighborhoods and to convince residents to limit their family size.

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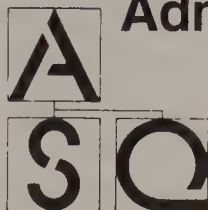
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Book Reviews

The Rise of Neoliberalism and Institutional Analysis.

Edited by John L. Campbell and Ove K. Pedersen. Princeton University Press, 2001. 288 pp. Cloth, \$65.00; paper, \$19.95.

Reviewer: MATTIAS SMANGS, *Stockholm University*

One thing that makes *The Rise of Neoliberalism and Institutional Analysis* unique among edited volumes in general, and edited volumes dealing with institutional analysis in particular, is that it brings together scholars working within different paradigms, or more specifically, from different branches of institutional analysis, namely rational choice, historical, organizational, and discursive analysis. Another is that before sitting down to write their respective contributions, the participating scholars agreed upon a common topic that they have then approached from their respective theoretical perspectives. This has given the book a coherence that is otherwise hard to find among volumes comprising pieces by a number of different authors.

According to the editors, this venture was undertaken in order to present the current state of the art in institutional analysis, thereby providing a basis for a more systematic comparison of the strengths and weaknesses of the different perspectives within this theoretical tradition. The hope of the editors is that such a comparison will point to the benefits of what they call a second movement in institutional analysis, by which they mean an “effort to stimulate dialogue among paradigms in order to explore the possibilities for theoretical cross-fertilization, rapprochement, and integration,” and further that “attempts at integration can reveal a wider, more complex range of causal processes than each paradigm alone generally does, as well as areas in which paradigms overlap or complement each other.”

The rise of neoliberalism during the last quarter century was selected as the common empirical phenomenon to be analyzed, among other things because “given its significance and institutional implications, neoliberalism is something with which institutional analysts should be concerned and something they ought to be able to explain,” and additionally neoliberalism is a “very complex . . . project that involves changes in a plethora of institutional areas: substantive and discursive; formal and informal; political and economic; public and private; global, national, and local.”

Besides the introductory and the concluding chapters, which are written by the editors, the volume is divided into four parts, each of which comprises two chapters and represents one of the schools of institutional analysis mentioned above. From a general point of view, the contributions maintain a high standard; each one presents suggestive theoretical ideas in addition to bringing to light various empirical observations relating to a number of aspects of the rise of neoliberalism. In my opinion, however, two chapters stand out, one by Bruce Carruthers, Sarah Babb, and Terence Halliday, and another by John Campbell. In the former chapter, the authors are able, within the context of their study of the central banks and the corporate bankruptcy legislation in France and Mexico, to highlight several of the central empirical contributions made by the volume as a whole. These include the findings that the concept of neoliberalism itself is more full of shades of meaning than is ordinarily recognized, that arguments maintaining that there is a uniform convergence toward a common set of neoliberal institutions are overstatements, and that neoliberalism involves more of a reregulation than a deregulation of economic activities.

By drawing on insights from historical as well as organizational institutionalism, John Campbell's contribution provides a brilliant illustration of the main theoretical and methodological findings of the volume, showing how bringing different institutional perspectives together may result in cross-fertilization and thereby generate significant theoretical payoffs. Campbell achieves this by first developing a fourfold typology of ideas based on two structural dimensions; whether they are operating primarily at a cognitive or a normative level, and whether they constitute the explicit argument or just the implicit assumptions of political debates. Second, he signifies the utility of his typology by showing that it may be employed as a partial explanation of why conservative supply-side economics came to dominate the conceptual framework of macro-economic policy making in the U.S. during the late 1970s and early 1980s, at the expense of liberal industrial policy.

To conclude, the chapters by Carruthers and his colleagues, and Campbell also illustrate the fact that *The Rise of Neoliberalism and Institutional Analysis* succeeds in fulfilling the hopes of its editors as described above. Viewed in its entirety, it certainly presents novel empirical findings about one of the most important developments of our time, i.e., the rise of neoliberalism, and it does a similarly good job of pointing to the emergence and desirability of a second movement in institutional analysis, as understood and discussed by the editors. It demonstrates in a clear and convincing fashion the virtues of theoretical and methodological pragmatism and open-mindedness, as opposed to theoretical and methodological dogmatism and self-sufficiency.

Prismatic Metropolis: Inequality in Los Angeles.

Edited by Lawrence D. Bobo, Melvin L. Oliver, James H. Johnson Jr., and Abel Valenzuela. Russell Sage Foundation, 2000. 611 pp. Cloth, \$49.95.

Reviewer: TORIN MONAHAN, *Rensselaer Polytechnic Institute*

"The road toward social justice," as the editors of this collected volume describe it, is especially difficult to survey when cultural colors are as complex and distracting as they are in Los Angeles. The first step that this book takes is to scout out existing data that synthesizes the conditions of inequality as experienced by local inhabitants — the Los Angeles Study of Urban Inequality (LASUI) serves this purpose. The data for this vast study was collected in 1993 and 1994 through 4,025 survey interviews with whites, blacks, Asians, and Latinos living in Los Angeles. *Prismatic Metropolis's* objective mirrors that of LASUI: "to broaden our knowledge and understanding of how three sets of forces — changing labor market dynamics, racial attitudes and relations, and residential segregation — interact to foster modern urban inequality." Where much recent research on Los Angeles concentrates on the historical, geographical, and political developments that have led to conditions of inequality, such as work by Mike Davis (1990; *City of Quartz: Excavating the Future in Los Angeles*, Vintage Books), Edward Soja (1996; *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*, Blackwell), and Janet Abu-Lughod (2000; *New York, Chicago, Los Angeles: America's Global Cities*, University of Minnesota Press), all the essays in this book build upon LASUI to explain current disparities through statistics.

On first pass, the findings in this collection are mostly intuitive: (1) poverty persists in spite of social programs, (2) economic hardships fall disproportionately on black and Latino communities, (3) women continue to have fewer opportunities than men do, especially black women who are not employed as frequently as Latino or Asian women in service jobs (such as nannies, day-care providers, house cleaners, manicurists), (4) employment trajectories demonstrate that black, Asian, and Latino workers tend to be relegated to low-skill positions while other ethnic groups, such as Indians and Iranians, acquire high-skill IT jobs (30-32). These findings may be expected, but they are valuable in their confirmation of extreme conditions that require immediate and sustained attention.

A closer reading of these essays reveals several more surprising results. For instance, social networks are crucial for immigrant Latinos to secure employment, but statistically insignificant in facilitating employment for native Latinos; this latter group depends much more upon English language proficiency as a passport for job opportunities. Excepting Koreans, "ethnic economies" (such as food service and retail trade) are not linked to upward social mobility and do not offer protected economic niches; these economies insulate workers from discrimination, but they

also relegate individuals to menial jobs and enforce a linguistic isolation that obstructs advancement. Finally, for marginalized and low-skill workers, especially women of color, longer commute times correlate with lower wages (even when one controls for bus usage); possible reasons for this phenomenon include racial residential segregation and gender and racial preferences (or discrimination) at places of employment.

The book's title, *Prismatic Metropolis*, is a metaphor for the many refractions of cultural diversity occurring throughout the U.S. According to the 1990 census, thirty-seven "multiethnic metros" exist, and since the national trend toward urban diversity is expected to increase, this book argues that Los Angeles should be understood as a mirror of modern America. Los Angeles, then, is simultaneously constructed as an exceptional case and a predictive model, and the city seemingly holds these extremes in a tension that is compelling for urban research but perhaps obfuscating for social advocacy.

On a critical note, the editors assert that they "aim to go further than most social science analysis, which is often constrained by reliance on the U.S. census and other highly standardized data sources," but they neglect to probe the methodological shortcomings of their research which depends almost exclusively upon quantitative representations of individual experiences. The demographic findings of LASUI may serve to create a more complex map of inequality than the U.S. census, but these findings neither convey the actual lived experiences of individuals in Los Angeles nor initiate investigation into policy changes that would address the disparities they document.

The absence of strong normative positions or recommendations for change prevents this book from fulfilling its underlying, if not explicit, goal of moving us down the road toward social justice. Readers are left wondering what personal practices or public policies are needed to dismantle structural and cultural barriers to a more just society. If Los Angeles serves as a model for emerging multi-ethnic metros, how can its problems of poverty, discrimination, and exploitation be avoided in other cities? As a guide, this book describes the landscape of inequality exceedingly well but stops short of providing any coherent directions.

Reinventing Justice: The American Drug Court Movement.

By James L. Nolan Jr. Princeton University Press, 2001. 254 pp. Cloth, \$29.95.

Reviewer: JASON SCHNITTKER, *University of Pennsylvania*

James L. Nolan Jr.'s *Reinventing Justice* begins with descriptions that dramatically illustrate the nature of drug courts. Setting the stage for an overarching dramaturgical theme, Nolan likens drug courts to theater and testimony to storytelling and depicts the many ways in which actors in such courts actively

promote the therapeutic ideal. For example, whereas emotions are typically discouraged in a court of law, emotions are encouraged, celebrated, and, indeed, viewed as evidence of the “true self” in drug courts. Furthermore, whereas other courts refer to “defendants,” drug courts prefer the term *clients* and actively—even aggressively—encourage responsible and expansive self-development.

Nolan’s book is a detailed and well-written account of drug courts and his method is well suited for the story he tells. Nolan conducted face-to-face and open-ended interviews with twenty-four judges in eleven states and the District of Columbia, attended national drug court conferences and mentoring court programs, and participated in the planning stages of one court. Using this rich ethnographic evidence, Nolan captures in detail the experience of the drug court, the trials of the clients, and the rationalizations of judges for their decisions.

All this stands well on its own, but Nolan’s ambitions are broader. Nolan’s central theoretical claim is that the rise of the drug court movement was made possible by a culture amenable to the court’s therapeutic orientation. Because drug addiction is viewed as a disease rooted in more basic problems of the self, and because many traditional forms of justice for drug offenses are no longer effective, the therapeutic ideals of the drug court emerged as the preferred form of justice. Despite Nolan’s reliance on a cultural explanation, however, he provides little evidence for the dominance of the therapeutic ideal in the mind of the public. Some public opinion data, in fact, tells a different story: General Social Survey data taken in the middle of Nolan’s study (1996), for example, suggests that the public is more likely to see drug dependence as resulting from “bad character” than from other factors and that only a slim majority of Americans view drug dependence as a physical illness at all (see Link et al., *American Journal of Public Health* 89:1328-33).

The “culture” of beliefs about drug abuse, therefore, is more complex than is allowed for here and perhaps also less conducive to the seemingly singular rise of the somewhat peculiar drug court. Indeed, the dominance of the therapeutic ideal seems unlikely even in light of the evidence Nolan himself reports. If American culture was so disposed toward the therapeutic ideal, it is strange that drug court judges would be left defending their legitimacy so often and with such artfulness. Nolan describes at several points how drug courts are part of a larger social movement that self-consciously promotes itself among other legal professionals and the public as effective and entirely consistent with popular notions of justice.

While Nolan claims to prefer description and to make no assessments of the utility of drug courts, the book ends with a critique of the expanding purview of the therapeutic ideal in contemporary criminal justice. While convinced that the therapeutic idiom does, in fact, dominate the drug court and that such courts have increased in popularity, the reader is also left with the impression that drug courts remain somewhat of an aberration and, moreover, that they continue to fight hard for every inroad they make. Therefore, Nolan’s claim that drug courts’ “unique

qualities and consequences . . . portend to redefine the very meaning of justice” seems premature and deserving of far more elaboration.

As a cultural explanation for the rise of drug courts’ popularity, *Reinventing Justice* leaves several gaps. As a description of a social movement, however, the book is insightful. Furthermore, the book offers a rich glimpse into what actually occurs inside drug courts. In this respect, the book makes valuable contributions to our understanding of how the therapeutic ideal — however dominant it might be — is actually put into practice and is a welcome addition to a body of research that is too often narrowly pragmatic.

Global Ethnography: Forces, Connections, and Imaginations in a Postmodern World.

By Michael Burawoy, Sean O. Riain, Joseph A. Blum, Sheba George, Zsuzsa Gille, Teresa Gowan, Lynne Haney, Maren Klawiter, Steven H. Lopez, and Millie Thayer. University of California Press, 2000. 392 pp. Cloth, \$48.00; paper, \$17.95.

Reviewer: MICHAEL HERZFELD, *Harvard University*

This book is both an intellectual contribution to the emergent field of globalization ethnography and a pedagogical achievement of prime importance. Not only does Michael Burawoy stimulate a group of eager graduate students to collaborate in generating a genuinely coherent set of intellectually stimulating articles, but the whole venture highlights some limitations and as yet uncharted difficulties of persuasively relating ethnographic analysis to global processes.

The authors question the possibility of understanding globalization without the close-up view of what they see as legitimate ethnographic method. They reject approaches that generalize the postmodern condition, preferring instead to focus — following the tripartite division of the book — on the horrific condition of neoliberalism’s rejects; the opportunities for recreating local space for those whose expertise and adaptability has prepared them well for the condition of fragmented local identities (and who can manage the new fragility of the nation-state rather than succumbing to an apocalyptic view of its demise); and the more ambiguous state of those who, while marginalized or co-opted by globalizing forces, nonetheless find ways of fighting back. Burawoy’s aim “to expose the limitations of fatalistic and naturalistic interpretations of ‘globalization’” is both laudable and well conceived — laudable because he thereby recognizes the political import of his team’s ethnographic research; and well conceived because he exposes the vicarious nature of a fatalism that in practice both reproduces and reinforces the power dynamic.

His own vision is admittedly limited by strategic choices. Had he not restricted his view of anthropology to the Manchester School; for example, he could hardly

have sustained his demonstrably inaccurate claim that anthropologists can today remain “blissfully unperturbed by the tenacity of the nation state” or that the discipline “has never taken the modern nation state seriously, and they are not about to do so now.” His interventions to support and elucidate studies that speak very eloquently for themselves, too, while evidence of utterly dedicated pedagogy, occasionally hint at conceptual regimentation. But the work as a whole owes a great deal to Burawoy’s inspirational role, all the more so when the individual chapters succeed, in original ways, in transforming the intellectual space he has mapped.

This happens especially in those chapters in which the authors shift the ground from the single-site ethnography to the equally intimate spaces of networks and associations that reach across national frontiers. Indeed, several authors traveled with their informants, either physically (Teresa Gowan walking with homeless men in San Francisco to observe their labor as garbage recyclers, Sheba George crossing the ocean to follow Indian nurses’ connections with their home community) or in cyberspace (especially Seán Ó Riain in his explorations of a software development firm in Ireland and the company’s international communications). Ó Riain shows particular skill in demarcating areas of unexpected intimacy and its absence: colleagues located in a workspace together can collectively resent the absent boss, yet they communicate with him by e-mail in a variety of ways that carry affect and engagement. These essays are genuinely ethnographic because, in pursuing links much further afield than face-to-face communication would permit, they convey the intimacy of the social encounter that gives the work its insights beyond any simple descriptive reporting.

That intimacy, important throughout, gains particular force in relation to currently fashionable generalizations about the global in Steve Lopez’s account of the response to the privatization of a geriatric institution in Pittsburgh reflects both the pervasion and weakening of local unionism by neoliberal ideology and the range of strategies that still transform and in some degree reverse those effects; in Zsuzsa Gille’s demonstration of how local forces in Hungary have co-opted the transnational lobbies in their own environmental struggles; and Maren Klawiter’s analysis of how local breast cancer awareness activists reversed the structural indifference produced by the neoliberal restructuring of medicine.

Yet, as Millie Thayer’s account of feminism in Brazil shows, recognizing local discourses is not enough; only by reciprocating the impact in economically weaker nations of discourses emanating from the powerful industrial nations will the industrialized world truly accept the reversal of its hegemony, by which otherwise even the most dissident domestic forces remain partially co-opted. For neoliberalism is an extraordinarily powerful ideology, and its bluff is not easy to call. Call it, however, Joseph Blum does. A veteran union activist and shipyard worker as well as a sociologist, he shows how deskilling actually wastes the trained capacities (as well as the sheer human material) of those whose real skills might be most useful to neoliberal enterprise when encouraged by its own alleged principle

of benign competition. His essay, perhaps most of all, captures the poignant predicament of a world in which local values are increasingly drowned out by hollow echoes from decentered forces of often infuriatingly immeasurable and inaccessible power.

Multi-ethnic Japan.

By John Lie. Harvard University Press, 2001. 248 pp. Cloth, \$35.00.

Reviewer: KEIKO YAMANAKA, *University of California, Berkeley*

In this stimulating and challenging book, sociologist John Lie observes that like all nation-states, Japan contains within its population a number of ethnic minorities with distinct histories and cultures. In the process of modern nation building, Japan, like other world powers, forced its ethnic minorities — Koreans, Chinese, Ainu, Okinawans, Burakumin, people of mixed ancestry, and others — to assimilate into the national polity dominated by the majority *Yamato* population. As a result, Lie writes, “modern Japan was characterized by (multiethnic) imperialism, not (monoethnic) nationalism.” He points out, however, that in both domestic and international discourses, postwar Japan has been predominantly characterized as monoethnic. How this can be explained is the simple but intriguing question Lie addresses in this book.

He does so through the use of sources drawn from the social sciences, humanities, and popular culture written in Japanese, English, and other languages (see his 52 pages of references). Based on his own hybrid upbringing in Japan, Korea, and the U.S., the author presents an intimate and lively cultural analysis of Japan’s search for a new national identity. His conclusion is clear: “The myth of monoethnic Japan is fundamentally a post-World War II construct.”

Chapter 1, “The Second Opening of Japan,” introduces the topic of the book, citing the influx of Asian migrant workers in the late 1980s as having triggered an intense debate on the ethnic purity of the Japanese population. “The reality of multiethnicity . . . threatened *and* affirmed the belief in monoethnicity” (author’s italics). Chapter 2, “The Contemporary Discourse of Japaneseness,” challenges the myth of postwar social homogeneity of class, culture, and ethnicity by reference to published statistics and research. Regrettably, gender is omitted as a major basis for inequality.

Chapter 3, “Pop Multiethnicity,” demonstrates the hidden ethnic and cultural hybridity of contemporary popular culture with a long list of national celebrities in sports, entertainment, and cuisine as cultural icons. Many Japanese have been unaware of ethnic diversity among familiar athletes, singers, and actors and would be taken aback to discover that these heroes are not “pure” Japanese. Chapter 4, “Modern Japan, Multiethnic Japan,” discusses the roots of multiethnicity in its

modern history, with brief accounts of the evolution of the five main ethnic minorities: Burakumin, Ainu, Okinawans, Chinese, and Koreans. This discussion will provide an excellent tool for teaching courses on contemporary Japanese society and culture.

Chapter 5, "Genealogies of Japanese Identity and Monoethnic Ideology," explains why and how the monoethnic myth and ideology became dominant in postwar decades. The author argues that their origins can be traced to the national discourse in the late 1960s, after the Japanese had achieved economic development, social egalitarianism, and therefore national integration. Citizens in all walks of life — intellectuals, politicians, and ordinary folks — were engaged in a search for a new identity suitable to a now affluent and peaceful country. According to Lie, emergence of monoethnicity as a major postwar belief allowed them to conveniently sever the present from a past damaged by war and colonialism. Chapter 6, "Classify and Signify," analyzes Japanese ways of thinking in the construction of ethnic and national stereotypes about cultural others. As a result, the author observes, passive racism is prevalent among Japanese citizens while human rights concerns regarding ethnic minorities are lacking in state policies and corporate practices.

With his lucid and self-reflective text, Lie's book boldly challenges, for the first time in English, the myth of monoethnic Japan. In so doing, he raises for his readers sober questions about Japan's postwar amnesia toward the recent past — an amnesia that has led to widespread dissemination of a revisionist history and uncritical acceptance of the deceptive self-image of ethnic homogeneity. Since the 1980s, however, Japanese scholars have begun to challenge this myth by publishing studies in Japanese on multiethnic nationalism and racial hierarchy before and during World War II and their legacies in contemporary institutions and ideologies. To debunk the monoethnicity myth, further research will be required, including case studies to provide concrete examples of the postwar roots and mechanisms of social engineering that gave rise to the myth, and to identify the roles played by major actors in that process.

It should be noted that since the early 1990s increasing multiethnicity within the Japanese population has opened a new chapter in the self-image of the Japanese people. This is especially pronounced in nonmetropolitan industrial areas where large numbers of foreign workers have settled with their families, most of whom are people of Japanese descent from Brazil and Peru. Within metropolitan areas, by contrast, newcomers and established minorities now constitute an ethnic mosaic with its vibrant transnational cultural scenes. In both locales, as Japanese have struggled to understand and cope with face-to-face interactions with non-Japanese, there have emerged among them grassroots organizations whose goals are to constructively confront the complexities of the newfound multiculturalism. Their voices are emerging as a new popular discourse.

Multiethnic Japan is an important scholarly contribution that at the same time is highly recommended to anyone who is interested in Japanese people and their rapidly changing society.

Transnational Peasants: Migrations, Networks, and Ethnicity in Andean Ecuador. By David Kyle. Johns Hopkins University Press, 2000. 251 pp. Cloth, \$45.00.

Reviewer: SARAH J. MAHLER, *Florida International University*

For some years now the transnational framework for researching and understanding migration has been in vogue, albeit not without its detractors. Over time the framework and its research methodologies have been refined. Early case studies full of detailed information about migrants' ties to their homelands still predominate the literature, but more comparative studies have been accomplished, which promise to yield a new depth of understanding. David Kyle's book, *Transnational Peasants*, in effect, brings the best of both methodological approaches to an understudied migratory population, namely, Ecuadorans.

Unlike most transnational studies to date, Kyle's study begins in Ecuador and examines the historical and contemporary factors that have influenced and patterned emigration from four communities of origin who migrate to New York and Europe. He selected these communities from two regions in Ecuador: Azuay in the southern highlands, where for generations people survived making Panama hats for sale and who primarily emigrate to New York; and Otavalo in the northern highlands, where people earned their living as weavers and, more recently, as Andean musicians who peddle their commodities all over the world, but most notably in Europe. His research design builds in two lower levels of comparative analysis as well: migration between two communities in each region that vary along demographic — particularly ethnic identity and class lines — and economic grounds. Last he contrasts migrants with nonmigrants and their households. This study design is deliberate, for Kyle's primary research question is "How has ethnicity, specifically ethnic identity, shaped the two divergent patterns [to New York versus to Europe] of transnational migration?" To answer this question he must do comparative research, but unlike other studies under way or recently finished that compare transnational migration *between* national groups, his comparisons are intranational. His investigation goes well beyond interviews with migrants and stay-behinds; he also conducts censuses of all the villages studied. And he does what no other transnational work I have seen to date does: he delves deeply, very deeply, into history. He traces the origins of Ecuadoran migration, ethnic divisions, and economic strategies back to pre-Inca times. Kyle's work stands out, then, not for the classic "thick description" of ethnographic studies, but for what might be characterized as "thick history." At least three of the book's seven chapters are almost

purely historical — wonderful for Ecuadoran and Andean enthusiasts, but a bit of an overkill for those like me who would like to hear more about the contemporary migrants' lives. There are snippets of this ethnography sprinkled here and there, most notably a few sections on gender relations and the awful predicament stay-at-home wives are placed in because the emigrant men create a "code of silence" in which they "actively conspire to reveal as little information as possible to their wives and other female relatives regarding their activities abroad." Aside from his comparative and historical contributions, Kyle is also interested in testing the utility of various theories of migration to explain his data. Not surprisingly, he is most enamored of the historical-structural and network schools, for he situates the Ecuadoran migrations very meticulously in "multiple regional, national, and even global social structures and ideologies." The former is best for explaining the onset of migrations across borders and the latter for their perpetuation. He also deftly uses Granovetter's strong/weak tie paradigm to demonstrate the importance of how weak links — including those to anthropologists and Peace Corps workers — are idiosyncratic but nonetheless critical to the formation of large-scale emigrations.

What can we learn from this book about migration? We learn what a contribution deep history can make. Kyle could underscore this contribution more than he does; instead he uses his historical knowledge to critique the utility of migration theories. Readers should be aware that this book, despite its title, is *not* pushing the frontiers of the transnational migration framework; rather, Kyle's battles are with classic "international" migration theories. Indeed, his work is situated well to push the boundaries, if not borders, of the transnational framework in at least one direction, but this is not his project. Overall, the book is an insightful, well-researched, comparative, and comprehensible chronicle. I would recommend it most to advanced students and scholars of migration and economic sociology.

Mothering from the Inside: Parenting in a Women's Prison.

By Sandra Enos. State University of New York Press, 2001. 176 pp. Cloth, \$48.50; paper, \$15.95.

Reviewer: CELESTA A. ALBONETTI, *University of Iowa*

Within the broader concern for exploring frequently overlooked female experiences of child care, Sandra Enos provides a descriptive treatment of parenting issues that women inmates confront during prison confinement. Her review of previous studies of the impact of incarceration on inmate mothers and their families is thorough and quite useful in laying the groundwork for the focus of her ethnographic study of twenty-five women inmates who participated in a parenting program in a correctional institution in the northeast. *Mothering from the Inside* begins with a clear statement of the research goal of exploring ethnic and race dif-

ferences in (1) paths to crime, (2) options for child care during imprisonment, (3) management of parental self-identity, (4) expectations in shared family responsibilities for childcare, and (5) maintaining parental influence during imprisonment.

To examine race and ethnic differences in the above concerns, Enos relies on anecdotal descriptions drawn from participate observational fieldwork and in-depth interviews with women inmates. Using a grounded theory methodological approach in her field observations, Enos subsequently formulates interview questions that are particularly relevant to her general research purposes. In chapters 3, 4, and 5, she relies on the inmate mothers' description of how they each conceptualize and deal with managing motherhood without their children.

In chapter 3, Enos focuses on race and ethnic differences in the pathways to crime and the type of child-care crises those inmate mothers immediately face upon incarceration. She concludes that white women are more likely to enter criminal activity by being a runaway adolescent. African American women are more likely to report entering criminal careers via a family member, while Hispanic women entered crime via the use of drugs. Enos reports that among African American and Hispanic inmate mothers, family members were often a viable option for child care during the mother's incarceration. However, among white inmate mothers, child placement was more likely to be in a foster home or with the child's father.

Chapter 4 details the inmate mother's experiences with attempts to convince others of their fitness as mothers in light of their criminal activity and absence from the home due to incarceration. Enos notes that success in these attempts is important to negotiations over child placement and continued contacts with their children. Enos describes the strategies inmate mothers use to prove their fitness as mothers. In this chapter, Enos does not attempt to identify race and ethnic differences in these strategies of self-identity. She points out the apparent incongruency in claims to being a fit mother and the use of drugs and involvement in criminal activity.

In chapter 5, Enos describes how inmate mothers construct priorities between drug use, criminal activity, and motherhood. She indicates that most inmate mothers view their identity as mothers as having the highest priority. Their attempts to manage and negotiate their identities around motherhood, crime, and drugs presented substantial strain and became a preoccupation for many of them.

The strength of the book is in the descriptive details of how inmate mothers attempt to hold on to their motherhood identity and to maintain a parental role in their children's lives. However, there are some troubling weaknesses. For example, the promise to examine race and ethnic differences is not systematically followed in chapters 4 and 5. Since the study is based on only twenty-five self-selected inmates, the generalizability of the conclusions to a population of inmate mothers is questionable. Generalizations even to the inmate mothers within the same correctional institution is cautioned against, given the nonrepresentative sample.

The sample overrepresents Hispanic inmate mothers and underrepresents their white counterparts. Finally, although Enos gathered data on the inmate mother's age and length of imprisonment, these variables are not systematically included in any analyses. These variables may well be important in understanding how inmate mothers cope with the challenges of motherhood and the level of success they achieve in negotiating their parenting role.

Young Adult Catholics: Religion in the Culture of Choice.

By Dean R. Hoge, W.D. Dinges, M. Johnson, and J. Gonzales Jr. University of Notre Dame Press, 2001. 288 pp. Cloth, \$40.00.

Reviewer: PHILLIP E. HAMMOND, *University of California, Santa Barbara*

Numerous surveys have documented the fact that while the actions of the Second Vatican Council in 1962–1965 had enormous worldwide consequences, in America, at least, these actions were met differently by old and young Catholics. Persons who reached adulthood before the council convened differed from the generation who grew up while the council met, and even more from those born after the council disbanded. Dean Hoge and his associates wondered if this trend continues, and the Lilly Endowment funded them to find out.

In 1997 the authors chose a sample of 800, half of them Latino, the other half non-Latino. Half were ages 20 to 29, the rest 30 to 39. All were confirmed as Catholics inasmuch as they were randomly drawn from confirmation lists in the appropriate years in widely diverse dioceses. Three-quarters of the non-Latinos drawn from the lists were located, and three-quarters of these were interviewed by telephone. Half the Latinos were located, with three-quarters of them interviewed.

Much research on Catholic laity has shown that in attendance, attitudes toward the church, sexual morality, and most everything else related to Catholic identity, the younger generation is more “liberal” and change-oriented. Put briefly, they feel the greatest freedom to be Catholic in their own way, expressing little guilt about departing from orthodoxy and orthopraxis.

As for the originating question — whether this generational change has continued — the answer appears to be no. Of course no measure is precise enough to answer so large a question, but compared to the sizable gap separating the three cohorts earlier identified, the difference between the post-Vatican II generation and 20–30-year-olds studied here (the oldest one-third themselves part of that generation) is hardly noticeable. This fact might suggest therefore a “flattening out” of some very dramatic changes in American Catholicism. However, while the book under review contains significant evidence that those in their 20s and 30s are not very different from those 10–15 years older, these young adult Catholics nonetheless have distinctive qualities.

This distinctiveness shows up most in Chapters 8 and 9 on Catholic identity. "Identity" here refers to the meaning the Catholic Church has for people. This is conceived in two ways: (1) a group of "parish Catholics" ("they go to church and find meaning in parish life") is distinguished from (2) "spiritual Catholics" ("their commitment is to some . . . Catholic teaching, spirituality, and traditions, but not to the institutional church") and from (3) "contingent Catholics" ("contingent on other central elements in their identity" [chiefly family and ethnicity]).

The second conception involves the notions of "core" and "periphery": what is *central* to one's Catholic faith, and what is not. Three generalizations emerge: (1) "Many young adults have not learned to distinguish core and periphery," (2) "Our research team expected that various subgroups would have distinctive views about what is essential to the faith, but our attempts to identify them largely failed," and (3) "the regular Mass attenders rated everything more essential than the non-regular Mass attenders."

Many nuggets are also to be found: "Young people are not receiving much encouragement to the religious life and priesthood." Catholic education does not lessen the chances of marriage with a non-Catholic. Half of this group "find the Catholic-Protestant boundary to be unimportant." It seems that not only did Vatican II lead, as many predicted, to the "Protestantization" of the Catholic Church in America; it also led to a breakdown in the boundaries that maintained Catholic distinctiveness.

The book concludes with ten recommendations for church leaders, many of which seem unrealizable given the book's findings. This makes the book critical to any discussion of what strategies might be feasible.

Recreating Motherhood.

By Barbara Katz Rothman. Rutgers University Press, 2000. 226 pp. Paper, \$22.00.

Reviewer: ANN BOULIS, *University of Pennsylvania*

In the second edition of her classic work, *Recreating Motherhood*, Barbara Katz Rothman first challenges conventional American notions of birth and mothering and then begins to offer an alternative vision of reproduction. Although *Recreating Motherhood* was first drafted more than a decade ago, Rothman's ideas are still avant-garde. The collective view of reproduction, which Rothman critiques, has grown even more problematic since *Recreating Motherhood* entered our societal consciousness.

In the first section of her book, Rothman critiques the traditional American view of reproduction. She argues that the ideologies of patriarchy, technology, and capitalism alienate parents and children. This alienation occurs because (1) the ideology of patriarchy causes us to define families by genetic ties rather than by nurturing relationships; (2) the ideology of technology leads us to expect rationality

and efficiency from children and their caregivers; and finally (3) the ideology of capitalism causes us to devalue the work involved in raising children.

Next, Rothman lays a foundation for an alternative philosophy of reproduction. She begins by urging her readers to consider the meaning of reproduction and pregnancy from women's, rather than men's, perspective. For Rothman, this new vision means defining the period between conception and birth as an extended period of nurturing and awarding parental rights only to those who have nurtured the child. The implication of this view is that at birth, gestational mothers deserve full parental rights regardless of any prior contractual arrangements.

According to Rothman, seeing reproduction from women's perspective also involves valuing the work of mothers and respecting whoever performs mothering work. This entails giving caregivers the right to determine the medical care their children will receive, giving gestational mothers full control over their birth experience, paying child-care providers a decent wage, providing child-care workers with visitation rights if they desire them, and recognizing that raising children is work that can be performed by people of different genders and cultural backgrounds.

By challenging the notion that individuals are free to choose their own destiny, Rothman also encourages her readers to question liberal philosophy, technology, and the free market. She suggests that the development of technologies like prenatal screening is not necessarily as liberating as our traditional views might imply. She reasons that women do not have a real option to carry children with disabilities if they live in communities that do not provide adequate support services.

As a piece of social criticism, *Recreating Motherhood* is unsurpassed. Barbara Katz Rothman has not only provided us with a concise, clearly written explanation of how our societal views have limited our understanding of birth and parenting, she has also demonstrated how those limits have tainted all Americans' reproductive experience.

However, *Recreating Motherhood* is much better at getting people thinking about what is wrong with our society's approach to reproduction than it is at offering politically reasonable and workable solutions for improving current conditions. Throughout *Recreating Motherhood*, Rothman offers us policy recommendations that are based on her criticisms. Although I find most of those recommendations inherently appealing, I believe that Rothman's recommendations themselves raise a host of serious issues that require further attention.

For example, if we, as a society, were to define pregnancy and reproduction entirely in terms of women's experiences, we might run into some policy-related problems. How would we deal with the infamous high school student who gave birth in the bathroom during her junior prom and dropped her baby in a trashcan? It is clear that she did not "define" her newborn as a separate individual or herself as a murderer. Like Rothman, I strongly believe that society needs to incorporate women's experiences into their collective ideas about reproduction. Nevertheless,

I sense that her view is not a sufficient basis for workable reform. Some form of compromise is necessary.

Similarly, although I am a strong supporter of public involvement in childcare, I believe Rothman's recommendations for public child-care subsidies need further clarification. She suggests that parents should be subsidized according to their incomes so that partners who earn more money will feel justified in taking time to care for their children. What is the implication in this type of policy for children whose parents earn *less* — that they are easier to nurture or less valuable? That is certainly the implication in our current public education system, the system that Rothman uses as a benchmark for how public child care should develop.

Even if Rothman's policy recommendations are vulnerable to criticism, *Recreating Motherhood* remains invaluable as a source of social criticism. After all, Rothman does not claim to provide the blueprint for a utopian society. She offers only her ideas and then invites her reader to join her in creating a new approach to reproduction.

Working Families: The Transformation of the American Home.

Edited by Rosanna Hertz and Nancy L. Marshall. University of California Press, 2000. 389 pp. Cloth, \$50.00; paper, \$19.95.

Reviewer: ROBERT CROSNOE, *University of Texas at Austin*

People live their lives in multiple settings. Such settings are not self-contained, and individual experiences within these settings are unlikely to be independent of each other. Despite this reality, social research often views individual lives atomistically, as a multitude of different experiences and roles in a variety of contexts occurring simultaneously yet somehow divorced from each other. The home and the workplace are, of course, two prominent settings in human life, but researchers tend to focus on one or the other rather than on the intersection, overlap, and reciprocal influence of the two. Sociology, psychology, and related disciplines have witnessed a movement away from such atomism in recent years, and *Working Families: The Transformation of the American Home* reflects this slow but important evolution.

This collection, edited by Rosanna Hertz and Nancy L. Marshall, grew out of a national conference, "Work and Family: Today's Realities and Tomorrow's Visions," sponsored by Wellesley College, the Alfred P. Sloan Foundation, and the Business and Professional Women's Foundation. This conference brought together the academic and business worlds in an effort to advance our understanding of the interface between work and family life. The chapters in this collection, empirical studies mixed with a few thought pieces, fulfill this broad goal. The chapters are collected into four theoretically meaningful sections: "Changing Families," centering on the transformations in personal and family life that have work-related

consequences; “Changing Workplaces,” examining how work is and is not adapting to the changing family demands of workers; “Gendered Views from Within,” focusing on work–family conflict and balance on the part of individuals, families, and employers; and “Children’s Experiences,” investigating how children fare in the work–home nexus.

As observed above, this collection is significant in that it examines how work and family *come together*. The literatures on these two institutions recognize how much they assume about each other. The pieces of this collection, taken as a whole, help to inject substance into these underlying assumptions by exploring how changing work roles have affected family life, how gendered ideas influence work, family, and the balance between the two, how employers contribute to and alleviate conflict within each context, and how the boundaries between the family and work systems have broken down and evolved.

Beyond this conceptual value, the greatest strength of this collection is its breadth, measured in myriad ways. It is multidisciplinary, drawing on sociology, psychology, social work, and economics, and incorporates academic and business perspectives. It crosses multiple levels, moving from population-level structural analyses to micro-level interactional foci, and uses demographic, statistical, and ethnographic methods. It also takes the point of view of various members of the family (husband, wives, and children) and examines various social locations, as defined by social class and race. The diversity of research surveyed in this collection mirrors the diversity of work and family pathways in contemporary American life.

At the same time, this diversity of approaches and perspectives is only the first step. The editors have brought many types of researchers, with many different interests, into the same arena. For this, I applaud them. I would like to have seen, however, a real *dialogue* among these different researchers, not just disparate studies side by side in the same volume but different researchers collaborating and learning from each other. How could our understanding of the work–family interface be advanced by the pairing of sociologists and psychologists, for example, or a multimethod study, the crossing of conceptual levels, or the simultaneous appraisal of multiple voices (e.g., different family members, worker and employer). Moreover, the various pieces in this collection focus, for the most part, more on how work and family influence each other, but more investigation of how the intersection of the two structures the human life course or the linked lives of family members would be appreciated. By illustrating the value of listening to multiple voices, this collection also demonstrates the need to integrate these voices.

Overall, I found this collection well written, well organized, and thought-provoking. I also think that it will be a valuable resource for scholars interested in the overlap of work and family, especially new scholars looking for an overview of the “state of the art” of the field. More generally, this collection provides a lens through which the overlap between work and family can be seen and distilled. Given the importance of these institutions for the human life course and of gender as an

organizer of both, this distillation can promote valuable knowledge of both human development and gender inequality.

Political Scandal: Power and Visibility in the Media Age.

By John B. Thompson. Polity Press. 2000. 324 pp. Cloth, \$57.95; paper, \$24.95.

Reviewer: AMY BINDER, *University of Southern California*

This book has a lot to say about mediated political scandals — including their roots and consequences in liberal democratic societies — and its author says it very, very well. John B. Thompson takes us on a highly illuminating journey through media, political, and cultural history, which provides a map for understanding why we are living in an age of scandal stories, and what this means for our relationships with our political leaders and systems of government. I cannot recommend this book highly enough for its several audiences: scholars, their graduate and undergraduate students, and a wider readership interested in political and social issues.

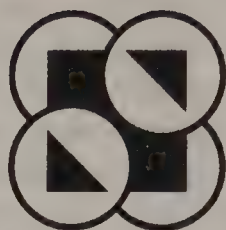
Even above the marvelous insights Thompson provides in this work, perhaps what is to be most appreciated is the way the author lets the story of today's scandal reporting unfold. Thompson begins by developing a definition of his subject that is richer than what has come before, placing "political scandal" in the zone of moral transgression, which must be named misconduct by some interested party, which then must be commented upon with some level of opprobrium, and which at least risks damaging the reputation of the alleged transgressor. This working definition proves useful for the author's next foray, which is to trace the meteoric rise of political scandal since the nineteenth century and to distinguish the differences between scandals that took place in more local settings in the past and those that occur in the despatialized and synchronized world of today's mass media. Careful not to give the impression that scandal was born anew in the last 200 years, the author nonetheless provides compelling evidence that its presence has been felt far more acutely in the nineteenth and twentieth centuries than in times past, due to transformations in political culture (increased visibility and "intimacy" of political leaders), media culture (the fragmentation and professionalization of the industry), and technological innovation (print, radio, television, and now the Internet). Thompson treats each of these areas with care, privileging none as causally more important than the others but, rather, looking at their profound interdependence in creating the conditions we live in now.

If Thompson had limited the book to a discussion of the conditions that combined to create this world of mediated scandal, readers would have had sufficient reason to be satisfied. But the author does much more. One of the most impressive contributions Thompson makes is to describe what it *feels* like to be a

citizen in this age of political scandal and to investigate how this experience contributes to current political culture. Thompson argues that since midcentury, political parties have lost their strong class affiliation and that candidates now must compete more vigorously for voter loyalty — that is, they cannot assume support based on their left–right positions. Combine this competition with (1) voter concern that the world has become increasingly complex, with decreasingly simple answers, while at the same time throwing in (2) increased visibility of candidates' private lives, due to changing media practices and communication technology, and we now have political races built on candidates' *character*. We vote for candidates we can trust — less because they have a firm grasp on issues or policies, and more because we like them as people and think they have integrity. And so scandal ultimately begets a politics of trust or mistrust — with the consequences we are enduring now.

Thompson ends his book with a set of “modest interventions” that might be implemented to alter the landscape of political scandal. Rightly shying away from activities that repress freedoms, the author recommends three partial correctives that systems of government might make to minimize the opportunity for scandal and two sets of behaviors that media might consider. He suggests that governments become more open and accountable, that they establish clear standards of conduct for public officials, and that they institute clear means of investigating wrongdoing (despite the possibility of eventual abuses of such means and procedures, as illustrated by Kenneth Starr's pursuit of partisan politics in his role of independent counsel, 25 years after the independent counsel position was created to guard against executive cabinet members' malfeasance). As for the media, Thompson argues that journalists and their organizations must seek to rule themselves, so that governments will not be tempted to take more formal measures to control them. He suggests that journalists attempt both to draw some kind of boundary around what is legitimate incursion into the private lives of public figures and to make sound decisions regarding the credibility of information sources — essential in this age of information bombardment. While presented in less depth than the rest of the book, these level-headed recommendations — which neither decry nor defend all scandal events — provide food for thought regarding institutions' and individuals' responsibility in the age of mediated politics. This is a fitting ending to an excellent book.

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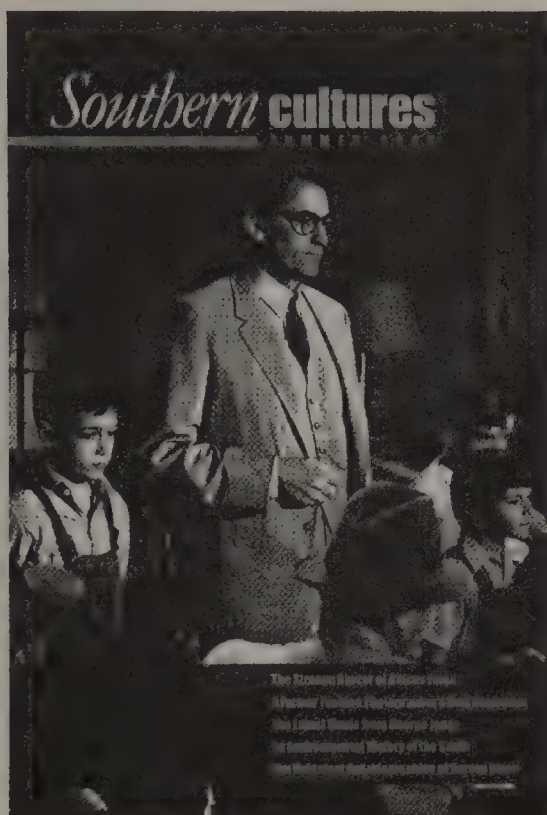
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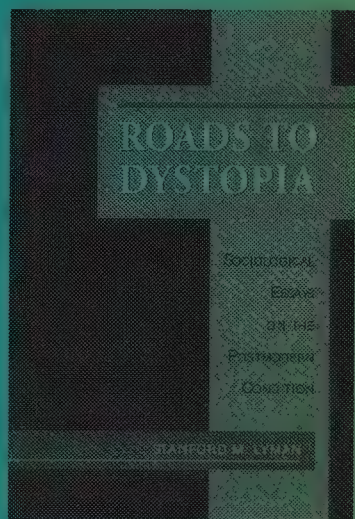
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